Amateur Radio

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July 2013
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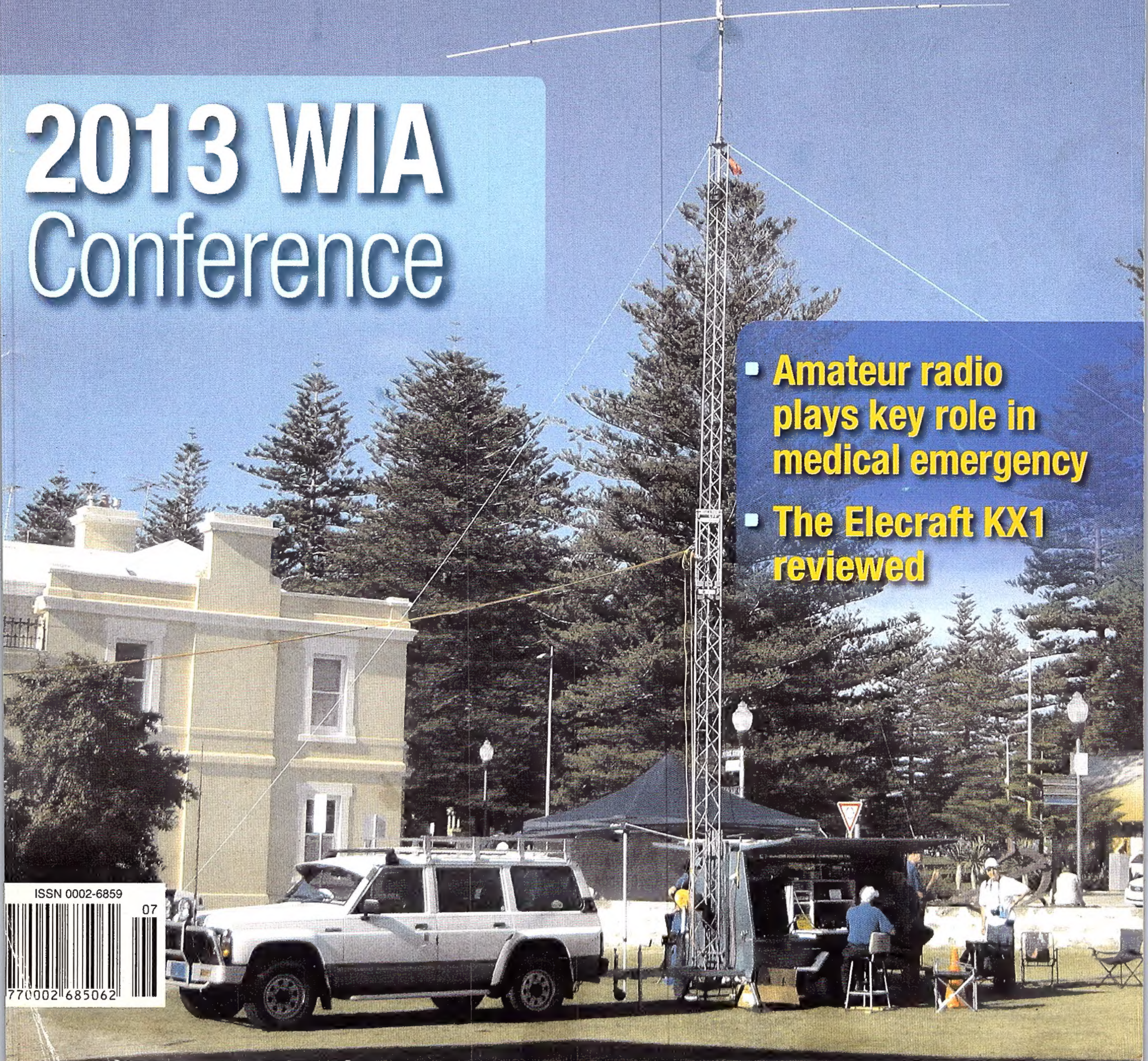
WIRELESS INSTITUTE OF AUSTRALIA



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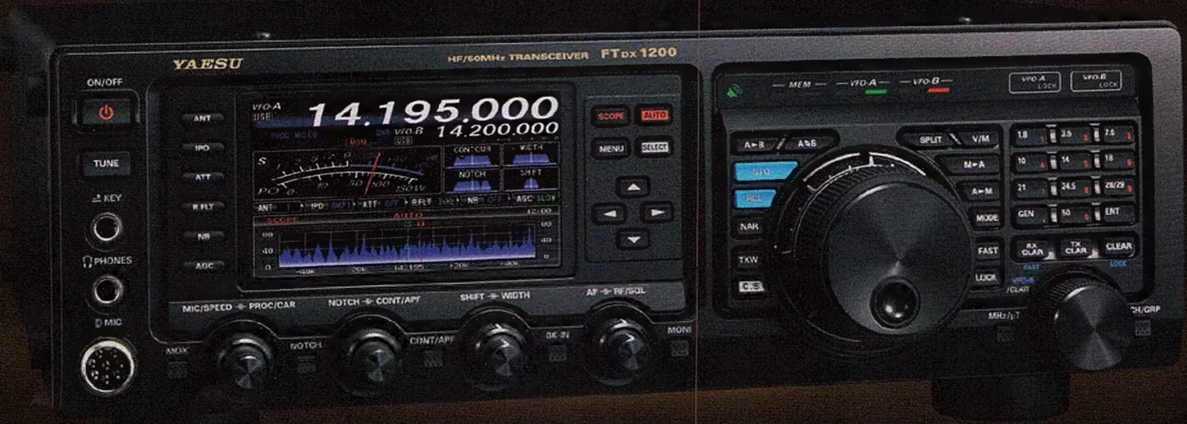

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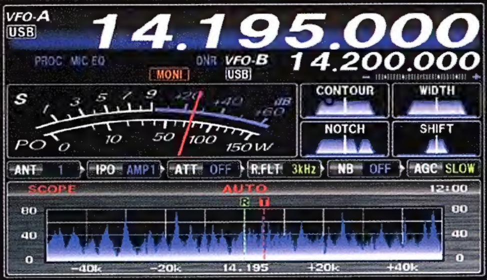
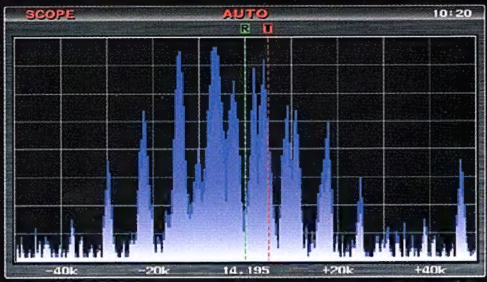


The Full Color 4.3 inch TFT display



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General

2013 WIA AGM and Conference report 8
Bob Bristow VK6POP & Onno Benschop VK6FLAB

In the right place at the right time 12
Terry Murphy VK3UP

You never know what will happen on 40 metres 17
Andrew Davis VK2UH/VK1DA

The best AR transceiver 22
Steve Mahony VK5AIM

MEMNET – Going Live 26
John Longayroux VK3PZ

Balloon Chase 28
Liz Billiau VK2XSE

Views from the WIA Conference 32, 33

Technical

Teaching and learning the Foundation licence 6
Graeme Scott VK2KE

Elecraft KX1 - an outstanding rig for field operations 19
Grant McDuling VK4JAZ

A 4:1 Guanella balun using readily available parts 24
Paul Murtagh VK3AFB

Columns

ALARA 34
AMSAT 48
Contests 60, 61
DX - News & Views 57
Editorial 2, 4
Hamads 62
Over to You 35, 37, 38, 46, 60
Silent Key 35, 47
SOTA 40
Spotlight On SWLing 56
VHF/UHF – An Expanding World 52
WIA Comment 3, 5
WIA News 4
VK2 News 37
VK3 News 39, 47
VK4 News 41
VK5 News 36
VK6 News 43
VK7 News 50

This month's cover
Our cover shows a view of the Peel Amateur Radio Group Communications Trailer set up at the Shipwreck Galleries (WA Museum) as part of the WIA Conference 2013 activities. Photo by Bill Rose VK6WJ.

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are welcome and will be considered for publication. Articles attached to email are especially welcome. The WIA cannot be responsible for loss or damage to any material. Information on house style is available from the Editor.

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The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Editorial

Peter Freeman VK3PF

A trip to New Zealand

Some time ago, I received an invitation from our President, Phil Wait VK2ASD, to attend the Annual General Meeting of the NZART – our sister society in New Zealand – as a representative of the WIA. I am not aware of the reasons behind the invitation, but I was honoured to be asked. Also to attend was Geoff Atkinson VK3TL/VK3AFA, who is the WIA IARU Region 3 Liaison Officer. One suspects that perhaps part of the reason for the Board to ask the two of us to attend on behalf of WIA was the timing of the NZART meeting – only one week after the WIA Conference in Fremantle.

Shortly after accepting the invitation, I received the latest issue of *Break In*, the magazine of NZART. In the Editorial, John Walker ZL3IB indicated that he would be unable to attend the Conference. One opportunity was thus not going to eventuate.

We departed Melbourne just after 0900 on Friday 31 May to arrive in Wellington mid-afternoon local time. We were met at the airport by the husband of the NZART Business Manager, who then drove us to Masterton, the conference venue – a drive of two hours.

After registration, we placed our bags in our rooms and freshened up prior to meeting the NZART Council, who had been meeting for most of the day. We were then invited out to a local venue for dinner.

Saturday was fairly full on, with the NZART AGM taking all morning and well into the afternoon. The President had indicated that he thought that the meeting may close early, given the business needing attention. I asked if Council members were aware of any activity or interest regarding SOTA in ZL and offered a short presentation, if they wished. The result was that I gave a 15-20 minute presentation at the end of the AGM, which meant that I was peppered with questions for the rest of the weekend. It looks as if there may be some developments on the SOTA front in ZL over the coming months.

Saturday evening was the Conference dinner, with Geoff and I each receiving a small token of appreciation for our efforts in attending the event.

Sunday was taken up mainly with a series of Annual General Meetings of various groups and a series of presentations on various topics. Geoff and I attended different talks and learnt some new information. Needless to say, we have many issues, interests and concerns in common.

Sunday evening was a social dinner with a quiz. The quiz was heavily weighted to two topics on which we had little knowledge – telecommunication (mainly telephone systems) history in Masterton, and the television show Coronation Street. We coped better on the broader questions! But it was an interesting evening.

On Monday morning we packed, checked out and then attended the rest of the Council meeting. Several issues of mutual interest were discussed, including discussion on matters relating to magazines and

Continued on page 4

WIA comment

Phil Wait VK2ASD

Our Man in Geneva

The Swiss Tourist Bureau describes Geneva as "super sleek, slick and cosmopolitan".. "a gem of a city superbly strung around the sparkling shores of Europe's largest Alpine lake"... "a place where people chatter in every language under the sun and 200-odd top-dog governmental and non-governmental international organisations meter out world affairs with astonishing precision and authority".

Dale Hughes VK1DSH was our man in Geneva for about 10 days in May, sitting through many meetings at the complex organisation that is the International Telecommunications Union; the ITU, a specialist agency of the United Nations where delegates from various administrations and ITU sector members attended those meetings to present their views on agenda items that affect world radiocommunications and telecommunications, including the amateur service.

Dale's colleagues included Tim Ellam VE6SH (IARU President), Bryan Rawlings VE3QN (Canada), Colin Thomas G3PSM (UK), Brennan Price N4QX (US), Ken Yamamoto JA1CJP (Japan), Ulrich Mueller DK4VW (Germany) and Hans Blondel-Timmerman PB2T (Netherlands).

After ten days of tireless meetings, it's not surprising that Dale had a slightly different take on Geneva. His regular progress reports to the WIA were splattered with words like "drizzley, bleak and cold" interspersed with "slow, difficult, and endless".

Others seemed to be impressed, however, so much so that Dale was appointed Chair of the ITU Working Group 5A.1 which deals with *'Land mobile service above 30 MHz (excluding IMT); wireless access in the fixed service; and amateur and amateur-satellite services,* and is considering a possible new secondary allocation to the amateur service between 5250 and 5450 kHz. Other work undertaken by WG5A.1 is the on-going revision and review of ITU recommendations and reports that are relevant to the amateur service.

Work on the 5 MHz issue is slow and complex, with diverse views and contributions from the member States. The IARU and the administrations of Canada, China, Russia and the United States of America made contributions. There was also a combined contribution from the administration of the United Kingdom and Northern Ireland, Norway and the Netherlands.

Dale's working group has produced a number of working documents which attempt to characterise possible amateur service operation around 5300 kHz, and the effect it might have on other existing in-band and adjacent band radio services.

Other work undertaken by various ITU working groups during this block of meetings includes:

- Work to finalise modifications to the ITU Amateur Service Handbook, chaired by Colin Thomas G3PSM. The Amateur Service Handbook contains information about amateur bands, operating modes, propagation etc. and provides information to national administrations which is used in managing their amateur frequency allocations. The Russian Federation proposed an excellent and extensive list of useful modifications and clarifications to the existing Handbook.
- Compatibility issues between amateur radio and vehicle collision avoidance radars at 77.5-78 GHz. The amateur service has primary status in this frequency band at present; however these short range radar systems already operate successfully in Australia and global harmonisation is likely.
- The possible extension of the frequency band used by the Earth Exploration Satellite Service. It is possible that the 3 cm amateur band will be affected by this proposal. If the agenda item is successful then there may be intermittent and transient interference to amateur 3 cm communications when the EESS satellite is in range, otherwise no other significant problems are expected.
- BPL/PLT issues were addressed including the specification for the spectrum mask which notches HF amateur bands and critical frequencies.

Although their various national positions may not always be in complete agreement, the amateur representatives work well together in advancing the amateur service. As Dale states "It's worth remembering that while the process seems slow and torturous, the end result is an International Treaty which affects the legislation

Continued on page 5

WIA news

WIA submission to ACMA on high power trial

The WIA has lodged a submission to the ACMA concerning the High Power Trial. The WIA submission is based on responses received from trial participants following a call for information, and also on its own observations.

The WIA's submission (below) notes that the trial appears to have gone very well, with licensees generally having a sound understanding of the self-assessment process and the use of EMR assessment tools.

The WIA also notes that it is not aware of any incidences of interference to other spectrum users, or an increase in interference to other radio amateurs, or an increase in the noise floor on affected amateur bands.

Many responders noted that the advantage of the higher power was most evident in contesting, when many stations are calling on the same frequency and all at once, and the relatively small 3-4 decibel increase in radiated power (from 400 W pX to 1 kW pX) can make all the difference in being heard.

The High Power Trial commenced on 1 March 2012 and will conclude on 31 August 2013. The ACMA is currently evaluating the success of the trial and is considering if permanent regulatory arrangements are warranted.

The WIA would very much like to see the higher power 1 kW pX limit become a permanent feature for Australian Advanced Grade Radio Amateurs.

Analogue television network shutdown

More than half a century after television broadcasts began in Brisbane, analogue transmissions were shut down forever.

A report was prepared by 7news and published on their YouTube site. You can find the link from the WIA News items for May 2013.

Grahame O'Brien VK2FA on the Super Radio Network

Grahame O'Brien VK2FA managed to obtain a 20 minute interview with Carter Edwards on the Super Radio Network about coming to the AGM from Newcastle by car and amateur radio.

You can listen to the audio recording at: *http://www.wia.org.au/newsevents/news/2013/20130605-2/documents/Graham%20from%20Geraldton%20WA.mp3*

WIA Contester of the Year

Alan Shannon VK4SN has won the WIA Contestor of the year award - the Peter Brown VK4PJ Trophy. He clinched it with winning performances in both SSB and CW modes of the Oceania DX Contest 2012.

Alan is a member of the Lockyer Valley Amateur Radio Club, as well as the Manager for the WIA's Remembrance Day Contest. The Contests Champion list recognises those who have participated in multiple WIA contests and submitted log results.

The Contest Champion total score is the accumulation of the scores from seven popular WIA contests, these being the Ross Hull, John Moyle Field Day, Harry Angel, Remembrance Day Contest, Oceania DX Contest Phone, Oceania DX Contest CW, and the VHF UHF Field Days.

Congratulations VK4SN.

Editorial

Continued from page 2

other publications. The meeting closed at around 1140, just in time for us to join our driver for the trip back to Wellington for the flight home.

Thanks to Geoff for his company and discussions, to the NZART for their support and interactions, and the WIA for the opportunity to attend as ambassadors.

WIA Conference and awards

I was pleasantly surprised when I listened to the local Sunday evening broadcast of WIA News on Sunday 26 May – I learnt that I had been awarded the Higginbotham Award for contributions to amateur radio for my work as *AR* Editor and also for my unbroken leadership of GippsTech since its inception in 1998. I thank the Board and all concerned for this honour.

Articles and photographs

Our stock of articles, both Technical and General, is reducing. Please do consider writing up your latest project or interesting activity – others are sure to be interested in reading about your activities. It may take a few months before the article appears in print, but we rarely reject an article. You can find guidance on how to write for *AR* on the magazine pages on the WIA web site – look under: "For Members", then "*AR* magazine".

We are also looking for high quality images to use on the cover of *AR* and also the *Callbook*. Images must be of good technical quality, taken in high resolution and be of a subject matter of broad interest to amateurs. You can send any contributions to: *armag@wia.org.au*

Until next month…

Cheers,

Peter VK3PF

WIA comment

Continued from page 3

underpinning the operation of all radio services in all member countries of the International Telecommunications Union."

All radio amateurs worldwide benefit from the ITU work, and the IARU has agreed to pay half of Dale's travel expenses while Dale is both representing Australia and acting in his capacity as Chair of the Working Group.

The next round of ITU meetings is again in Geneva in November followed by May 2014. In addition, Dale has been attending the meetings of the Asia Pacific Telecommunity, where much important discussion takes place about regional issues and voting blocks tend to form.

The international work is one of the most important and expensive areas of WIA activity, though it goes largely unseen by members. In the past, Dale assisted Keith Malcolm VK1KM, but Keith tragically passed away about two years ago and Dale immediately took up the reigns.

Preparation and attendance at these meetings is a big ask for just one person, and Dale has so far been very gracious with his time. Clearly, that cannot go on forever and we need to find some assistance for Dale, at least with the preparation and as an understudy.

If you have had experience in this type of work, especially if you have worked for the ACMA or an international agency or delegation, we would very much like to hear from you.

Finally, we need to gather information about the potential usage of a 5300 kHz amateur assignment. The WIA is also keen to hear any views you may have about the proposed allocation around 5300 kHz and how it may assist you in your radio communications activities.

Phil Wait VK2ASD
President

In this magazine you will find information about the recent WIA AGM held in Perth, which proved to be a great success. The results of the recent election for WIA Directors were announced at the AGM, and those results have also been published. I would like to take this opportunity to congratulate the three new Directors and to also very sincerely thank the retiring Directors for their efforts over the last few years, especially over the difficult period following the passing of Michael Owen, VK3KI.

GippsTech 2013

Do you own an amateur transceiver that includes six metres, two metres and/or 70 centimetres in addition to the HF bands?

Have you explored any of the bands above HF? Or do you simply use the two metre and 70 centimetre capability on FM for chatting with the locals or to access the local repeater? If this sounds familiar, you might be surprised at what you can actually work on these higher bands, especially if you tune to the SSB segments or explore some of the digital modes. But how do you discover more information about such operation? For a two-day immersion experience, attend the annual **GippsTech** conference.

GippsTech has a reputation as a premier amateur radio technical conference. It focusses primarily on techniques applicable in the VHF, UHF and microwave bands, especially for weak-signal contacts.

It is almost that time again: **GippsTech 2013** will be happening on the weekend of the 13th and 14th of July, at Monash University Gippsland Campus in Churchill, Victoria, about 170 km east of Melbourne.

A Partner's Tour will be conducted, together with an informal social gathering for dinner on Friday and a Conference Dinner on Saturday.

Those of you who have more experience and have information to share with others are invited to submit titles of presentations to the Conference Chair Peter VK3PF as soon as possible.

Further details are available from the Eastern Zone Amateur Radio Club website: ***http://www.vk3bez.org/***

GippsTech 2013 will be held on the weekend of **July 13 & 14, 2013,** a date which is fast approaching.

Registrations close on July 6! On-line payment preferred for last minute registrations.

It is time to register!

Teaching and learning the Foundation licence

Graeme Scott VK2KE - gsco8077@bigpond.net.au

As a teacher with quite a few years of experience in teaching radio apprentices and technicians, and then later on amateur radio classes of all levels, I have a few suggestions on how we can do it better.

I am currently teaching the Foundation licence to a class of five students at Scots School in Albury. The class is run on the basis of one hour per week on a Wednesday from 2.30 to 3.30 pm. I am closely following the syllabus and the manual as the guide to the content. Also, I am using the MS PowerPoint presentation based upon the manual. It is particularly good in that it shows a lot of the theory in a visual way and it sequences things in a pretty logical way. I enhance that with use of the whiteboard and with reference to the manual as we progress through the course. Having taught this licence course a few times via the radio club to mostly adults in the past, I am finding it a bit of a challenge to have only 1 hour per week available for the sessions but so far it is working OK.

Today, I took a Morse code oscillator along with me. I had recently built it on Veroboard from an ETI magazine article. It uses the good old 555 IC. With this device I demonstrated 'SOS' and the like to them. We moved on to covering basic transmitters and the oscillator was an ideal way of demonstrating a carrier by holding the key down and it gave a continuous tone (CW) which I called the 'carrier'. The class quickly got the concept and that it conveyed no intelligence until I began sending some Morse to them - in fact I sent their names to them which was a bit of fun.

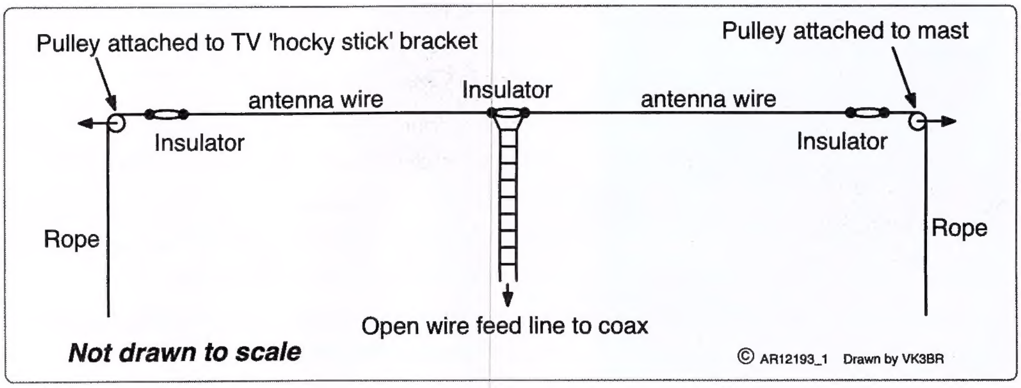
I am a great believer in as much audio visual support for a class as possible. It brings theory concepts to life. I use the theory that *'to hear is to forget, to see is to remember and to touch is to understand'.*

I have also made up some display boards with capacitors, resistors, RF chokes and transformers on them. Just to keep me busy in the workshop between classes, I have also made up two crystal sets to demonstrate basic receivers. I have also made up a demo board with some samples of mains and RF transformers of a number of types and sizes as I felt that a basic understanding of transformers was warranted especially as one of the students had asked me about them. Another 'demo' board has a selection of toroids and RF chokes on it.

At this point I feel like making a recommendation to the 'powers that be'. It is in relation to the inclusion of capacitance and inductance into the course.

Now I know that the course is specifically designed to be simple and low key and not overly complicated. So I am being cautious in what I say here. Where I am coming from is that in antennas, ATUs and a number of places in radio we encounter the basic building blocks of C, L and R, so I feel a basic mention must be made of C and L. For example, when we tune an ATU we are adding either C or L to the antenna to match it to the transmitter. Also when we tune a Rx or a transmitter, we are using C and L to resonate to a given frequency. So a basic understanding of C and L I feel is necessary. I therefore recommend that at the next syllabus review, the update includes a basic understanding of capacitance and inductance.

Another concept I have recently developed is to couple an AF signal generator into an AF amplifier, for example, the ETI 061 module which is nicely compact, being small and lightweight (read easy to carry and deploy). The signal generator can then be swept up and down around a central frequency to demonstrate frequency changes (basic FM) and then at a fixed frequency the amplifier gain is swept up and down to demonstrate amplitude changes (the basic AM concept).



A diagram of the basic dipole antenna described in the text above.

I have made up a few circuits from the ETI range and some from the Jaycar series to demonstrate to the class the fun of making electronic projects. It has brought me back to the bench and onto the soldering iron again and the old skills have come back to me, all the while being a bit of fun as well! It's a great feeling to load a PCB with components, to connect it up and have it work first time.

On the operating front, I have installed a G5RV antenna (ZS variant) at home and have used it very successfully on the 40 metre morning net on 7055 kHz. So far I have coupled the coax directly to the balanced (ladder) line with no balun and the antenna tuner in the rig happily matches to it no problem. The signal reports are indicating that it gets out very well and I am giving some pretty good reports to each operator in the group, so it's receiving well too.

This antenna has been installed between a TV 'hockey stick' bracket mounted up high on the house gable roof and the other end is attached to a pole installed up near the back fence.

Each end of this antenna has a pulley and rope on it to facilitate erection and lowering of the antenna so changes can easily be made without needing a ladder.

I have permission from the school to install a temporary G5RV antenna and will use it to demonstrate operating on a band and to demonstrate matching the transmitter to an antenna and also the correct sequence of rig -> SWR bridge -> ATU and antenna. I think the word 'temporary' was helpful as they wouldn't want a permanent antenna installed between the fence and the building!

I would be interested in hearing from other teachers as to what they are using as teaching aids with their classes.

73. Scotty VK2KE

Changes to the Outwards QSL Service

Two changes have been made to the Outwards QSL Service.

New Outwards QSL Address
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PO BOX 66
Boolaroo
NSW 2284

QSL Service Guidelines for Special Event Stations

A WIA Member is entitled to a free outwards and inwards QSL service. The QSL service is free for special event stations, DXpeditions, IOTAs etc operated by WIA members or by WIA affiliated Clubs. However, all operators need to be WIA members or the operation needs to be sanctioned by a WIA Affiliated Club.

Inwards QSL cards will continue to be available for non-members at the convenience of the QSL service.

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2013 WIA AGM and Conference report

Bob Bristow VK6POP and Onno Benschop VK6FLAB

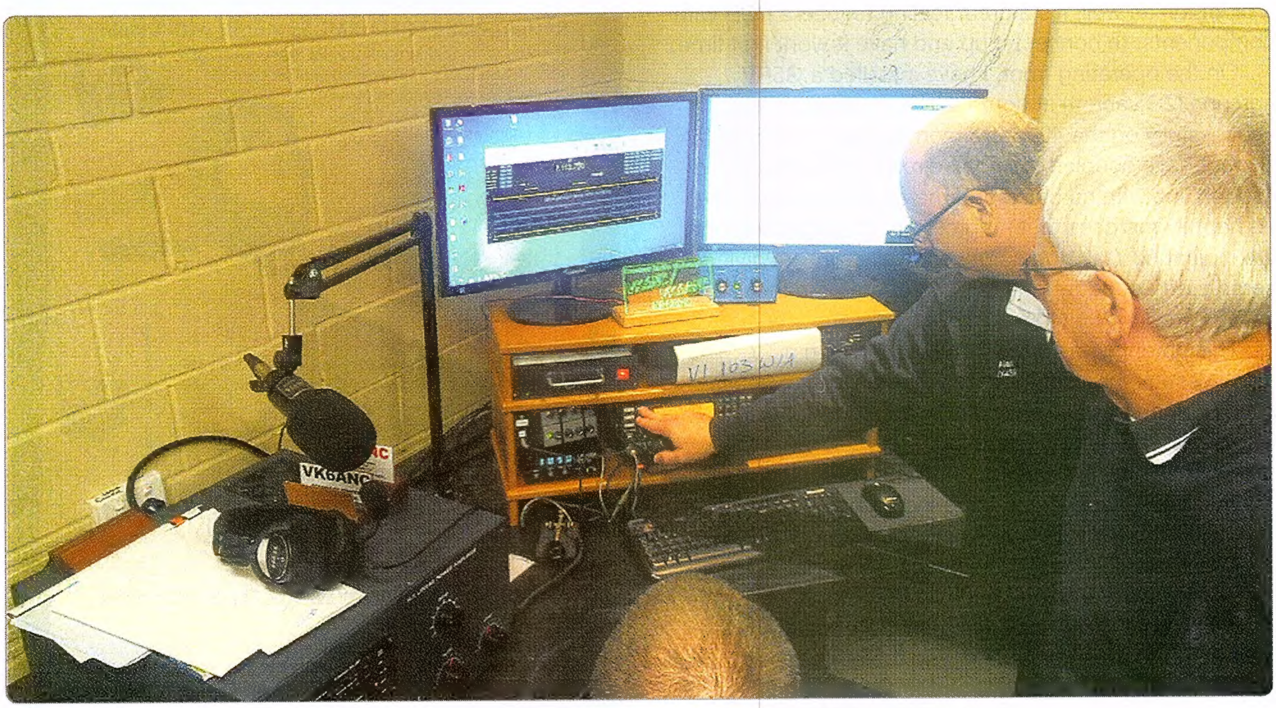


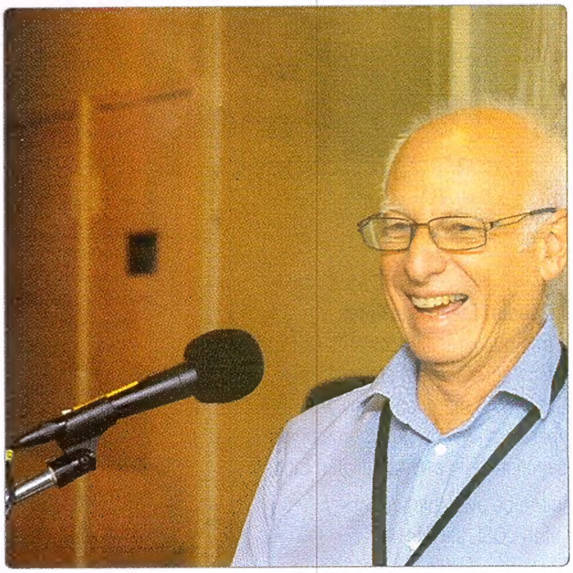
Photo 1: Alan VK4SN and others checking out the VI103WIA station in the WA VHF Group shack.

The 2013 WIA Annual Conference and AGM which was held at the end of May in Fremantle, attracted almost 90 people. They spent their weekend together in an enjoyable atmosphere. For some it was a reunion, and others their first time to meet face to face people they had known only as a callsign on air or a name in a magazine.

The weekend commenced with a meal at a riverside cafe. An unexpected large number of partygoers caused the driver of our bus, Darby VK6FONC, some headaches, but eventually everyone made it to the festivities. Onwards to nearby Wireless Hill, where the WA VHF Group, VK6VF, hosted the Wireless Hill Welcome at the Communications Museum, which proved to be an interesting venue for coffee and dessert. The VHF Group opened their shack to operate the Conference's special event callsign VI103WIA.

Saturday was a mix of many things; first cab off the rank was the Partner's Mystery Tour around Perth, meanwhile back at the ranch we got on with the conference.

Photo 2: Phil Wait VK2ASD President of WIA.



The proceedings commenced with the Wireless Institute's Annual General Meeting, where the usual formal, statutory requirements were attended to. The only other business was a motion to confer life membership of the WIA on **Robin Harwood VK7RH.** The motion was carried unanimously.

Open Forum

Following the AGM, the Open Forum commenced and followed through morning tea to lunchtime. The WIA President, Phil Wait VK2ASD, spoke at length about the committee system that the Board is putting in place that will shift the workload from an overworked few, into collaborative committees. This will have the added bonus of embracing and recognising those who presently work quietly and unannounced in the background.

Next was a demonstration by WIA Treasurer John Longayroux of the new MemNet member management system that is being implemented.

Phil presented President's Commendation certificates to nine members. The higher level Merit Awards were presented during the Annual Conference Dinner. Other discussions during the Open Forum covered changing options about if, and how, members receive their *Amateur Radio* magazine, how to increase WIA membership, retaining members, and supporting Foundation licensees, discussion about training and affiliate club engagement. One well received proposal was to supply a free membership to the WIA to each graduating Foundation call.

Technical Symposium

Lunchtime in the hotel ensured that everyone had a good feed, and everyone gathered in the main conference room for the keynote presentation of the Technical Symposium. The topic was Software Defined Radio (SDR) and it was presented by Phil Harman VK6APH. Phil, a doyen of SDR, presented the information in understandable terms in a logical sequence, to a very attentive audience. Many of whom subsequently expressed an intent to explore SDR further. Watch this space.

The symposium was then divided into four sets of three concurrent presentations, and conference goers had to start making choices. The topics chosen proved to be interesting and most sessions were well attended. Sessions were 15 minute talks followed by engaging discussion, encouraging those present to explore the topic at hand and make it their own.

After the Symposium there were a couple of free hours, where people could socialise or primp themselves for the Conference Dinner. During this time, the NewsWest team recorded the National News in front of a live audience of about twenty amateurs. Reports of the Comedy Hour notwithstanding, the team managed to combine many of the outtakes into a coherent whole to produce the National News which was available for download at 2.30 am (local time) the next morning.

Conference Dinner

Almost ninety people attended the Conference Dinner. The dinner commenced with an audio visual tribute to Michael Owen VK3KI SK – thanks to Robert VK3DN for producing the video. During the evening, awards were presented by the President.

The honoured Guest Speaker, whose identity we managed to suppress for months, was Professor Lyn Beazley, Chief Scientist of Western Australia. Lyn was thrilled to accept our invitation to speak to us.

Photo 3: *John Longayroux VK3PZ delivers Treasurer's report.*

Lyn was appointed Chief Scientist of Western Australia in 2006. She was awarded Officer of the Order of Australia in January 2009. She is a member of the new Technology and Industry Advisory Council (TIAC) to the Western Australian Government. In March 2011 she was inducted into the inaugural Western Australian Women's Hall of Fame.

Lyn undertook her undergraduate studies at Oxford University and her doctorate at Edinburgh University, her research career has spanned 30 years. She is Winthrop Professor in Zoology at the University of Western Australia, where she built up an internationally renowned research team that focused on recovery from brain damage. Her research also changed clinical practice in the treatment of infants at risk from pre-term delivery.

In a most engaging presentation, Professor Beazley began by talking about the evolution of sight in animals, describing and comparing the development of sight in various species. She then moved on to describe how we see the universe, using an example of aboriginals in north western Australia who see an emu in the Milky Way, signifying the commencement of breeding season for emus.

While on the subject of viewing the universe, Professor Beazley went on to talk about the Square Kilometre Array being constructed jointly in the Murchison region of Western Australia and in Africa.

Following dinner, Lyn went to the conference radio shack to activate her special callsign VI6PROF. Unfortunately a solar flare and local noise disrupted plans to make contacts, however she told us that she had loads of fun trying. Thanks to Steve VK6IR for bringing out his shack for her first amateur CQ-call and to Anthony VK6AXB for setting up the antennas.

Sunday Activities

On Sunday, the conference activity was an exploration of Fremantle, and participants enjoyed a tour of Fremantle Prison, a visit to the Maritime Museum and the Shipwreck Gallery, a chance of a pause at a portable amateur radio station, operated by the Peel Amateur Radio Group, VK6ARG, on the lawn in front of the gallery, and a seafood meal at a popular cafe on Fishing Boat Harbour. Other attractions included the markets, the famous cappuccino strip, and more historical sites around this former convict settlement. A few amateurs were seen glued to the PARG mobile communications trailer operating VI103WIA.

The conference weekend concluded with the Sunday Sundowner, organised by the Northern Corridor Radio Group, VK6ANC, at the Neil Penfold State Amateur Radio Centre in Whiteman Park, on the north eastern fringe of the Perth metro area. In fact, the sun was just about done by time we arrived, however there was still enough light around to see the forest of very high masts and big antennas dotted around the place. The centre was open for viewing, and the shack was open for operation of the VI103WIA callsign. A good time was had by all.

Final words

Our intent for this conference was to engage, learn, appreciate, socialise and discover. From the beginning, we set out to make this conference a collaboration of Western Australian amateur radio clubs, and by all accounts those aims were fulfilled. It was this spirit of collaboration by clubs and individuals that made the conference a success, although let's not stop short of giving a lot of credit to those who attended. It's the crowd that makes the event, and what a crowd!

If you'd like to relive the experience, or see the presentations up-close, you'll find them online at *http://conference.vk6.net/73*

Technical Timetable

Software Defined Radio **Phil Harman VK6APH**		
New Hams/First Conference **Onno VK6FLAB**	Contest Technical College **Trent VK4TS**	WIA/RTO **Fred VK3DAC**
Getting Experimenting **Bob VK6CG**	WA Repeater Group Network **Anthony VK6AXB/ Heath VK6TWO**	HAM College **Doug VK6DB/ Neil VK6BDO**
AFTERNOON TEA		
VHF Group Beacons and Propagation **Heath VK6TWO/ Terry VK6ZLT**	What not to do in a contest **Trent VK4TS**	HF Travellers Nets **Bob VK6KW**
Amateur radio myths **Mark VK6MOA**	Summits On The Air **Ron VK3AFW**	How we make Newswest **Bob VK6POP/Onno VK6FLAB**

Partner's Mystery Tour

Twenty XYL's were taken on a 'Mystery Tour', which included the sights of Perth City. Check-in on the bus consisted of a roll-call of OM callsigns, some of which went unheeded by long suffering partners. Several amateur XYL's who were on the bus were disappointed that their own callsign went unrecognised: sorry ladies, my bad – Onno.

Under the guidance of Darby VK6FONC and Ian VK6TWJ the day took in a drive up the coast to Hillarys Boat Harbour, where a waist enhancing morning tea was consumed. The tour around the Swan Valley included Whiteman Park, then lunch and wine tasting at Edgecombe Brother's winery and restaurant.

Wending their way back, the group paused at the Margaret River Chocolate Factory, still in the Swan Valley, then on through historic Guildford, Kings Park, following the river back to Fremantle. Those on the tour were thrilled with their day out, reports of raucous laughter were a plenty.

Presidential Commendations

The President awarded Presidential Commendations to the following members:

Roger Harrison VK2ZRH, for his preparation of submissions to the NSW state government regarding amateur radio antenna masts in NSW.

Greg James VK2GRJ, for his contribution as Assistant Treasurer of the WIA and in particular in relation to the MYOB function.

Dianne Ashton VK3FDIZ, for her valuable on-going contribution to the administration of the WIA, with particular regard to the Examinations Service and the callsign recommendation process.

Margaret Williams in recognition of her many years of service to the WIA.

Denis Johnstone VK4AE, in recognition of his contribution over 10 years as Contest Manager for the John Moyle Field Day.

Alan Shannon VK4SN, in recognition of his contribution as Contest Manager for the Remembrance Day Contest.

Bob Robinson VK3SX, for his on-going contribution as Awards Manager, and for his work on the restructure of the Awards program.

Marc Hillman VK3OHM, for his development of a new series of support tools which have contributed to the WIA awards program.

Deane Blackman VK3TX, for the creation of a log checker for the Remembrance Day Contest.

WIA Merit Awards

The following WIA Merit Awards were presented at Saturday night's annual dinner:

Higginbotham Award for contribution to amateur radio: **Peter Freeman VK3PF**, for his seven years as *AR* Editor, beginning with the first edition in 2006 and continuing, and also for his unbroken leadership of GippsTech since its inception in 1998.

Amateur Radio Technical Award: **Andrew Martin VK3OE**, for his article *'Adventures with a bistatic chirp and CW radar'* published in *AR*, December, 2012, page 10.

Al Shawsmith Award for journalism: **Grant Willis VK5GH, Matthew Cook VK5ZM, Mark Jessop VK5QI** and **Alan Kovacs** for their article 'Introducing Project Horus: High altitude ballooning in South Australia' published in *AR*, July, 2012, page 22.

The ***Chris Jones Award***: **John Longayroux VK3PZ**, for his outstanding contribution as Treasurer of the WIA. This award honours the memory of a man who was dedicated to the advancement of amateur radio and whose unfailing commitment and vision led to a new Wireless Institute of Australia ... 'It is awarded to radio amateurs who have made an exceptional contribution to amateur radio and the Wireless Institute of Australia.'

Photo 4: PARG Communications Trailer at Shipwreck Galleries (WA Museum).

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In the right place at the right time

Terry Murphy VK3UP

Photo 1: The accident scene, after the arrival of emergency service personnel. Note the trail bike in the background.

Toward the end of a very hectic week and amidst vacating a house full of 30 plus years of accumulated furniture, I received an email from Simon Christie from 4WD TV (Channel 31/44) inviting the first five people to reply to his email of a chance to partake in a 'Your Rig' day outing in the Mount Disappointment area about an hour's drive north of Melbourne.

I really couldn't afford the time off from the home duties but I hadn't been bush for a while and decided the break from the drudgery would do me no harm. I responded to the email and was accepted. I organized three friends, Lawrie, Michele and Diane to come along and we met the 4WD TV group near Donnybrook at 11.00 am on Saturday 6th April. After a quick meet and greet we all headed off in convoy towards the forest.

A short time later we turned off the bitumen and headed north. In a clearing we parked up the 4WDs and Simon, Danny and the 4WD TV crew proceeded to interview the owners of their respective vehicles. I was second to be interviewed and the next task was to be filmed traversing some deep ruts on a short ascent to the top of the hill. Whilst waiting at the top of the hill, a group of trail bike riders came up to the vehicles and we explained we were filming in the area. They then departed for tracks unknown.

A few more of our 4WD TV group were in the process of being filmed on the ascent when one of the trail bike riders sped into the area in a panic and said one of the other riders had crashed his bike, badly broken his arm and was bleeding profusely from a hole in his arm the size of my thumb. Lawrie had been taking still shots with his camera at the bottom of the hill so he scampered to the top on foot to where I was parked and said in an exhausted breath 'let's go, we have a medical emergency'. We met the trail bike rider at the bottom of the hill and Simon said 'follow that rider and he and the rest of the 4WD TV group will catch up with us down the track somewhere later'.

We followed the rider along the track for several kilometres to the first intersection where I stopped and positively identified both tracks, writing down the names and taking a photo of the sign post. I reset the trip meter at this point and we proceeded down Quinceys Break Track from Mill Range Road. Quinceys Break Track is a four wheel drive track and we proceeded downhill for 1.3 kilometres until we reached the bottom at a small creek where the patient was sitting with his back against the bank nursing his bloodied arm. He was very obviously in severe pain.

Lawrie was pretty much out of the vehicle with the first aid kit in hand as I rolled to a stop and he immediately commenced treating the patient. I quickly positioned the vehicle into a small flat clearing nearby with the Terlin Outbacker antenna clear of trees as this was going to be our only means of communication from this gully.

I then assisted Lawrie to arrest the bleeding and as soon as this was done I did a quick scan of the 40 metre band and looked for a suitable strong station before breaking in.

I heard VK3YY and VK2UH in conversation. On their next over I broke in identifying myself and said I have a medical emergency. I was brought in immediately and VK2UH, being the stronger station, was best placed to action the call. I explained to Andrew Davis VK2UH, who was in Yass NSW, that the patient had crashed his motorcycle, had sustained a major break of the arm and had been bleeding profusely for some time before we arrived. I requested he contact an ambulance immediately as we had no mobile phone coverage. I was explicit in giving the exact location as 1.3 kilometres down Quinceys Break Track from Mill Range Road. It was further explained that due to the severity of his injuries we should not move the patient and the ambulance needed to come to him. It was made clear that the track was a four wheel drive track and not traversable by a conventional vehicle. At the accident scene, Lawrie was doing a great job applying first aid to the patient and we kept reassuring him that we had contacted the ambulance service and they were on their way.

Whilst waiting for Andrew VK2UH to get back to me, and while treating the patient, one of the riders explained what had happened. The patient had ridden up the track from the creek to a point that became too steep for him, so he turned around and came back down.

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He was almost at the bottom when the back of the bike slipped out and at the same moment, his mate came around the corner and, as the patient went down, made contact with what they believe was the rear axle of the other bike puncturing his arm and shattering the bone near his biceps.

There was continued communication between Andrew and myself. Once the ambulance service had been contacted and dispatched, I was able to update Andrew with as much information as possible as he was now the main point of contact with the Emergency Services. Owen VK1OD in Bowral NSW joined the conversation and assisted in locating the accident site on Google maps and also helped in looking for a suitable helicopter landing site using the maps. He also kept up dialogue to ensure the frequency was kept clear for the emergency traffic whilst Andrew was on the phone to the Emergency Services.

The first problem we encountered was that the Ambulance Service could not find Quinceys Break Track on their maps. I took a precise GPS reading on my hand held Garmin GPS and the coordinates and map references were given in various formats and relayed via Andrew who in turn passed them on to the authorities. The Ambulance Service considered using the Air Ambulance and wanted to know if they could get the helicopter to the patient. I explained that the area was in a heavy forested gully with tall timbers and was unsuitable at the accident site. We thought about the clearing at the intersection of Mill Range Road and Quinceys Break Track, so I handed a portable CB (Citizens Band) radio to Lawrie and, whilst he continued to treat the patient, I drove the 1.3 kilometres back up to the intersection to see if it was suitable. Unfortunately, there was not enough rotor clearance to land a helicopter but there was just enough room to winch if needed.

I spoke to another of the trail riders who was waiting at the intersection for the ambulance to arrive and he said he had been about two kilometres along Quinceys Track from the creek and there was a farm house and paddocks there. Both Andrew and Owen were able to locate the property on Google Maps and suggested it was worth a look. I drove back down to the accident scene and after making sure all was okay with the patient, headed up the other side and located the said property about a couple of kilometres away at the top of the hill.

An examination of the area deemed it more than adequate with a safe landing site on solid flat ground with no trees, power lines or obstructions nearby. I took a GPS reading at this location and passed it on to Andrew who promptly relayed it to Emergency Services.

As well as the Ambulance Service, Andrew was now in contact with Victoria Police and they advised that they had the Air Ambulance on standby and enquired as to what frequencies I had at my disposal at the proposed landing site. I advised Andrew that I had a Kenwood TS-2000 and had all of the HF amateur bands at my disposal as well as a UHF CB radio. Andrew gave them our 40 metre frequency of 7.090 kHz as well as channel 12 on UHF CB.

The time was getting on and Andrew was kept busy on the phone by the Emergency Services people who were still having difficulty locating the site. We also found that Quinceys Track was not showing up on our in-car or hand held GPS units either. The crash scene was reiterated as being 1.3 kilometres down Quinceys Break Track from the intersection of Mill Range Road at the bottom of the hill.

The property owner having noticed my vehicle parked adjacent to the paddock gate came up to investigate thinking we may have been up to no good. I explained what had happened and she gave permission to land the helicopter in the paddock and unlocked the gate for us. We parked my vehicle out in the open where it could be seen from the air and continued to maintain communications with Andrew, keeping him informed accordingly. In between all of this happening I also maintained contact with Lawrie via the CB who was with the patient, and kept them both informed of developments.

A short time later Lawrie called me to advise that the Police had arrived at the accident site but had no radio contact with D24. Using the CB we were able to update the police as to the consideration of landing the helicopter at the proposed landing site and I was intending to transport the Paramedics to the accident site and then transport the patient back up the steep track to the helicopter. He seemed happy with that and said he would stay at the scene. I then notified Andrew that the first Police Emergency Responder vehicle was on scene and he relayed that to D24 with whom he was already speaking.

It was around this time that I was able to contact Danny from 4WD TV via the CB and updated him accordingly. Danny asked if we required any additional assistance. I replied not at this time but would advise if needed, so they continued with their filming.

A short time later I received a call from Lawrie via the CB who advised that the police vehicle was now heading up the hill towards me and I was to give him some additional first aid gear and he would deliver it back to him at the scene. I met the police officer when he arrived and gave him the additional first aid gear as requested. He said he was going to continue to drive up the road a little ways and determine exactly where he was as he had been driving around for an hour and a half before finding the patient. Seems

Photo 2: Emergency services personnel work on the injured rider.

he had previously driven about one kilometre down Quinceys Break Track and thought it was the wrong track, turned around and headed back up again - it appears he had erroneously been told the track was suitable for an ambulance. That was the last we saw of him (and our first aid gear).

About twenty minutes later another police 4WD vehicle and an ambulance approached from the direction the previous police vehicle had gone. After a short liaison the ambulance was parked in the paddock and the bags of medical supplies were loaded into the police 4WD vehicle. The three ambulance paramedics climbed into the back of my Patrol and we headed down to the scene, notifying both Lawrie and Andrew as we proceeded down the track towards the patient.

Immediately on our arrival I called Andrew and advised him that we had arrived back at the scene and the paramedics were now in attendance. The paramedics' portable radio had coverage at the scene and they requested that the patient be air lifted out because of the nature of his injuries.

The paramedics were told the air ambulance was no longer available due to being on another call out. Consideration was then given to walking the patient out in a litter carried by six SES personnel. The track was steep and slippery and could have taken possibly six hours or so to organize and get him up to the ambulance.

The poor guy had been in acute pain for almost three hours by this time. Lawrie was certainly relieved to see the paramedics, as he had been by the patients' side for several hours and had been supporting his broken arm. He stretched his legs, made short work of a well-deserved cold drink and a hot meat pie with sauce from the back of my Patrol before he went back to assisting the paramedics.

The police and paramedics discussed whether they may be able to transport the patient in one of the four wheel drive vehicles if suitably supported and adequate pain relief given. It was decided that the patient could be put in the back of the police 4WD and taken up the hill slowly. After being stabilised and prepared, he was eased into the police vehicle with a paramedic. I transported the other two paramedics and their gear back up to the ambulance and once there, the paramedics prepared the ambulance and stretcher in readiness for the patient's arrival. We also found our first aid gear had been returned and was hanging from the gate near the ambulance.

When the police vehicle conveying the patient arrived at the ambulance a short time later, the patient was loaded onto the stretcher and placed in the ambulance. Thanks were given all round and we all left in our respective directions. We drove back down the hill to the accident scene where we picked up the patient's motorcycle boots, clothing and helmet and took it up the hill to the other riders who were waiting there after loading their bikes onto a trailer. They thanked us for our efforts and we all headed south along Mill Range Road.

When we had mobile coverage, I sent Simon a text saying we had departed the accident scene and he gave us details where to meet the group. We rendezvoused just in time to do some more filming of my vehicle in the fading evening light. Once done, we all headed home but not before we stopped at a hilltop ridge vantage point and watched the sun set below the western horizon.

A couple of days later, Simon Christie from 4WD TV received a letter of thanks from the paramedics that attended thanking us for making the call to the ambulance, applying appropriate first aid and for transporting the paramedics and their gear to and from the scene.

Some of the problems or short falls we encountered

The first police vehicle to arrive was from the metropolitan area. The metro police vehicle had a UHF digital radio but was out of range. This also meant that the GPS unit would not operate either.

The second police vehicle to arrive was from the country region (Broadford, I think) which meant they could not communicate directly with the metro police vehicle via radio as their system is analogue VHF. The second vehicle upon passing the first vehicle up the track somewhere told him to go home as his shift was up and they would handle it from here.

The second police vehicle had been delayed an hour or so in attending because it was at a special operation involving a motorcycle gang.

Most of the Emergency service people involved were unfamiliar with the programming and converting of the given GPS coordinates or were limited by the software available.

Offers were made to share Google Maps but they did not know what Google Maps were.

There was no mobile phone coverage whatsoever in the vicinity of the accident scene.

The '112' Emergency Global number did not work or was out of range.

The Air Ambulance do not normally dispatch an air ambulance unless it has been requested by an ambulance officer on scene, which is understandable; after all, we wouldn't want to turn it out for a hang nail injury would we. (Unfortunately in this case, the ambulance officer that needed to be there to call in the request for the helicopter couldn't locate the scene).

None of the Emergency Services were able to locate the track on any of their maps or GPS units.

There seems to be a problem getting the required information to the required authorities in the field, not sure if it is the Emergency Services call takers' interpretation, typos or communication issues.

Positives in communications

From the moment I made contact with Andrew VK2UH, there were no problems whatsoever in passing the necessary information back and forth with a 100% confirmation read back with no need to repeat any messages, as the contacts were all 5/9. The only time communication was less than perfect was when I was speaking with Owen VK1OD whilst driving back down Quinceys Break Track from Mill Range Road and that was to be expected considering the terrain, angle of antenna and dense tree line but this was non-emergency traffic, only lasted a few minutes and was still readable nonetheless.

Lessons learnt and suggestions for others heading off the beaten track

When going bush ensure you are licensed for the vehicle you are driving and it is registered and roadworthy, so that in the advent of an accident or serious injury you may be covered for medical costs by the Transport Accident Commission (Victoria) or interstate equivalent.

If trail riding, hiking or partaking in any dangerous activities like bike riding or four wheel driving or anything similar make sure you are an ambulance member. I know I am a current member as my annual membership renewal has just arrived in the mail but I'd hate to think how many thousands of dollars it would have cost to air lift the patient out if the Air Ambulance was used - as he was not a member.

Positives that helped the patient at the accident scene

The patient was fortunate that we were in the area and had all of the necessary equipment, knowledge, experience and skills to attend to his needs. We had adequate food, water and clothing with us for the conditions and extended stay if needed.

We had a fully equipped first aid kit (and a current First Aid book for reference if required). We had a qualified and current First Aider with us.

We had a rubber backed ground sheet in the vehicle which was used for the patient's comfort.

Finally, and in conclusion, you can never have too many radios!

You never know what will happen on 40 metres

Andrew Davis VK2UH/VK1DA

Photo 1: Emergency service personnel work on the injured rider, whilst friends look on.

On the afternoon of Saturday 6th April around 1.30 pm I was getting ready to score some 'chaser points' for contacts with a hilltop SOTA portable station on 7090 kHz, when I heard Terry VK3UP/mobile call in, saying 'I have a medical emergency'. I said I could relay the information for Terry, the frequency was promptly cleared of SOTA traffic and I commenced an information relay between Terry and emergency services.

Terry has described the events in detail. At my end of the operation I observed the following:

1. I knew I would be asked questions like the precise location of the accident, the nature of injuries, the condition of the injured rider, whether he was conscious, was there any loss of blood and how long ago did the accident happen. I asked Terry for that information before calling 000. Terry provided all the answers and I was ready to answer the questions once I got through to the ambulance service.
2. Emergency services were initially cautious and probably sceptical about my report from NSW about an injured motorcyclist in Victoria. They asked why the person on site did not just call them himself using a mobile phone. I explained that there was no phone coverage at the accident site, that I was an amateur radio operator and that I had received a request to make the phone call from another amateur radio operator who was on site in his 4WD.
3. The ambulance operator found one of the forest roads I gave them from Terry's location description (Mill Range Road) but they could not find the minor track. They could therefore not identify the likely location of the accident as the track was simply not on their maps.
4. Having taken the information about the injured rider from me, including my name and address, home number and mobile, the ambulance operator terminated the call. I had to call them back later to provide new information (such as the lat/long details and also the location of a suitable helicopter landing site found by Terry). I had to give all the information again including my identity and explaining the amateur radio link.
5. Using the position information from Terry's GPS, I was able to enter it onto Google maps on my computer, using positions in degrees and decimal minutes, that is, 37 23.704 S, 145 04.651 E. Later the police asked me for the location in degrees, minutes and seconds because their maps would not accept the decimal format. However even though I had created a Google map with the accident marked on it and was ready to 'share' it with the police, they had no way of using it.
6. After advising one of the police operators that people onsite had UHF CB radios, and could be contacted on channel 12, I was asked whether UHF was written Uniform Hotel Foxtrot. I took this to mean that the police officer

was unfamiliar with 'UHF CB' and the equipment used there.

7. Terry called me several times with updates on the patient's condition, which seemed to be worsening.
8. Towards the end of the operation, over two hours after the original call was placed, I heard from Terry that he was ferrying paramedics from the ambulance to the accident site. Just then I received a phone call from the ambulance service asking me where on earth the accident was, saying that their crew had been driving around the area for the last 90 minutes. I was able to tell them what was happening at that moment ('the paramedics are being taken down to the accident site'), which was news to them. The operator commented that they would have found the accident quicker if I had given them a street address in the first place. I reminded her gently that there was no street address in the forest and that I had reported the site in full detail in my first call.
9. Once the paramedics were on site treating the patient, Terry and I closed down the 40 metre link as it was no longer needed.

Comments on the operation

I gained several things from this experience, including a better understanding of how emergency services operate. It would have been better for me to get contact details for the actual police station handling the incident, rather than going back through 000. I asked for the contact details but the operator said I should just call 000 again. That was not an efficient process especially without any way of quickly linking back into the previously reported incident.

My office IT help desk issues an incident number for each problem reported, allowing users to call back and the operator can be readily reconnected with existing information. If I could have quoted an incident number to ambulance or police it would have allowed the operator to immediately connect my call with the existing incident; if indeed there is shared information between those services. In a complex emergency I think it would help the public and emergency services by reducing the time needed for each call.

It became clear that they did not understand or appreciate the fact that I could provide them with information direct from the accident site, whereas even if they took their own cars there, they would not be able to communicate well. The police operator told me she had lost contact with the police car, and the ambulance operator was the same. Treating me as a bystander who may as well hang up after reporting the details was not the best option in this case. Our amateur radio link on the 40 metre band was their only connection into the accident site for some time (over two hours) and in those circumstances they should have kept me on the line and not let me go anywhere. The accident area had patchy mobile phone coverage on the high ground and nil coverage down in the accident area. Operators used to city services being 'always on' did not seem to appreciate that things are different out of town.

Photo 2: *The injured rider obviously in very good hands.*

One extra thing I would do 'next time' is to keep a better log of messages and their times. It might not always be important but in the event of a more serious outcome for the rider, having all actions logged would help reconstruct the event.

From information received from Ron VK3AFW later, I gathered that 40 metres was not providing a good signal from Terry's mobile location into the Melbourne area. If it had, it would have been better to hand the communications role to a better located operator, and I was ready to do that if conditions changed. Fortunately, we had good signals over the approximately 400 km path, 40 metres being ideal for that distance.

A number of people emailed me later noting that they had monitored the event and thought the process had worked well. Thanks to all who cooperated and helped keep the frequency clear. Many thanks to Terry VK3UP, whose background in emergency operations and an HF mobile setup made him the ideal person to be there at the time.

Elecraft KX1 - an outstanding rig for field operations

Grant McDuling VK4JAZ

It has often been said that there is little to beat working stations all over the world on a rig you built yourself. How true that is. But it's not everyone who can sit down and design a transceiver from scratch, then build it.

This is where kits come in.

These days there is a rich selection of kits available to choose from. They range from basic crystal-bound mono-banders to elaborate all-mode multibanders. I have built many of them and have learnt that you inevitably get what you pay for.

One of the kit companies at the quality end of the spectrum is Elecraft. Situated in California on the western slopes of the Santa Cruz Mountains, just outside of Silicon Valley, this company was founded by Wayne Burdick N6KR and Eric Swartz WA6HHQ back in 1998. Since then they have attained an enviable reputation as a hands-on kit supplier of the highest order. I have long wanted to take the proverbial plunge and build one of their fine offerings.

The chance came recently when planning my next field outing, operating portable for the 2013 John Moyle Field Day. My choice was to build the Elecraft KX1 ultra-portable CW transceiver.

Photo 1: Opening the box for the first time.

I placed my order and two weeks later, a well-packed box arrived at my QTH. It contained all the components, packed into separate packets that even contained a note with the name of the person who had packed it. Talk about being confident that no parts had been omitted!

The instructions aren't your usual set of photocopied pages detailing the steps necessary to put the kit together; they are more like a top quality booklet, spiral bound and packed with even the most mundane or obvious detail. No effort has been spared in this department.

I started by undertaking an inventory of all the parts. None were missing. I then proceeded to begin reading the manual and was delighted, and surprised, to find that the first 13 pages contained an introduction, customer service details, the specifications, and preparation for assembly: very thorough indeed.

The first part of the build is all about assembling the control, display and audio stages. This took me quite a few evenings to complete. Then it was time to run through a few test procedures to ensure all was as it should be. No special tools or pieces of equipment are needed, except for a digital multimeter, as the checks mostly involve a series of resistance

Photo 2: The PCB fitted into the enclosure.

checks. All was well with mine.

Then it was time to carry out the alignment, and more tests. Again, all went according to the book.

Part two of the assembly process involved the receiver circuits. Populating the board presented no problems but care needed to be taken to ensure certain components were no more than 7.9 mm above the PCB when installed. This is because of the tight confines of the enclosure.

When it came to testing, I discovered all was not well. I could not get the receiver to align correctly on 40 metres. Time to troubleshoot.

After two evenings spent checking and double checking all the components and my solder joints, I fired off an email to Elecraft seeking assistance. Boy, was I surprised at how quick they replied. And in such detail: I followed the advice Gary AB7MY gave but still couldn't resolve my problem. So it was off to Wallace VK4CBW, a fellow operator whose shack is just down the road from me. He hooked up his scope and began signal tracing. Turned out I had soldered one of the chokes into a wrong hole! After removing it with the aid of his sophisticated vacuum desoldering machine, I was back on track, with the test readings now as they should.

Time for part three of the assembly process, the transmitter and low pass filter components. It was time to wind the four toroids and complete populating the PCB. Once that was done, the enclosure was readied to accept the PCB. It was starting to look like a radio now. Fitting, and wiring up the internal battery holder, was a little tricky but all went according to plan. Except that I overheated one of the minute crimp terminals! Again, a quick email to Elecraft and two replacements were in the mail at no charge at all: wonderful service.

Next it was time for alignment and testing once more. The part I had been waiting for all along was to test output power. I wasn't to be disappointed, except output on 40 metres was a little low. Again, Gary came to the rescue by suggesting I change the values of two resistors, which I did.

When hooking the rig up to a dummy load, my QRPometer and a variable power supply, these are the RF output readings I obtained:

9 V	1.87 W (20 m)	1.66 W (40 m)
12 V	3.13 W (20 m)	3.07 W (40 m)
13.8 V	3.92 W (20 m)	3.98 W (40 m)

Photo 3: The completed Elecraft KX1.

For the sake of completeness and accuracy, I replicated these readings using my Hendricks dummy load/power meter, taking voltage readings with a DMM and applying the formula:

$$P = \frac{V_{RMS}^2}{Z}$$

which becomes, in this case:

$$P = \frac{\left(\frac{V}{\sqrt{2}}+0.3\right)^2}{50}$$

Where V is the peak voltage measured by the DMM;
0.3 compensates for the forward voltage drop in the DMM;
and Z is 50Ω in this case.
The square root of 2 deflates the peak voltage to the root mean square or RMS voltage

Gary was happy with the measurement values and said they matched his own KX1. So all was well and time to make my first few QSOs.

I hooked up my dipole, key and power supply and tuned around the 40 metre band. I heard ZL4IG calling from Invercargill and answered. He replied straight away and gave me a 339. We had a wonderful QSO that lasted quite a few minutes. Two days later, and still on a high, I answered a call from FK8CE in New Caledonia. Again, a wonderful QSO followed in which I received a 579. This was on 20 metres this time. Straight after that I worked HB9BQR in Switzerland, also receiving a solid 579.

I was in my element.

My KX1 is only the base model: two bands – 20 metres and 40 metres, no ATU or paddles. Those can come later. But first, there is some more enjoyment to be had!

Reference

http://www.elecraft.com

ERRATA

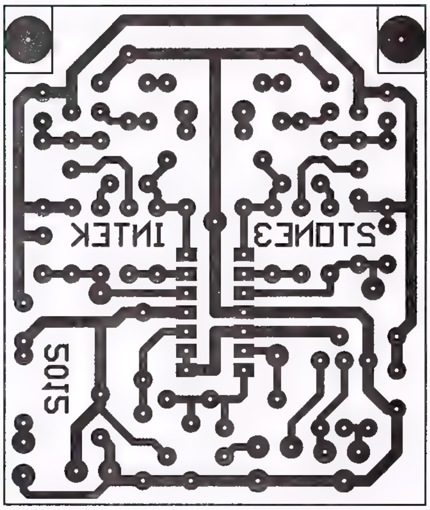
Amateur Radio June 2013, page 14-17.

A low distortion two tone oscillator

Jim Tregellas VK5JST

The author has advised that there are two errors in this article. First, despite the text and component overlay being correct, C2 and C6 are wrong in the circuit diagram. They should be 10 nF, not 1 nF.

Second, the PCB pattern published was the draft version, not the final version, which is published here. The finished board size is 55.88 mm (2.2 inches) wide x 66.04 mm (2.6 inches) high. Please make my apologies to all who may have been affected.



The best AR transceiver

Steve Mahony VK5AIM

Photo 1: The Slinky Squid vertical set up on the shore line.

In my nearly 50 years of being an amateur radio person, the best and most delightful transceiver I have and still own is my IC-703 HF transceiver. I had read about the unit in the English *Practical Wireless* and *RadCom* amateur radio magazines, both of which gave excellent reviews with very favourable comments on its portability. Having carried and run various HF/VHF transceivers around the country portable and mobile, the IC-703 looked most interesting. I had an Icom IC-706, and still have an IC-706MkII. Using an IC-706 portable, it does not take too long to make a 12 V 24 Ah Gel Cell flat. The IC-703 looked just the right type for portable operation. Checking around it did seem that the IC-703 was not readily available here in VK. On various HF nets I commented on this and that I would like to buy one, even second hand. One day, out of the blue, I received a phone call from an amateur who had an IC-703 for sale. During a long chat, he indicated that the transceiver was in excellent condition, complete with instruction book and so on and original packing. A price was agreed upon and a couple of days later he phoned to say it was on its way to my QTH. It arrived a day later by private hand.

Here the seller misled me slightly! On checking the unit out in the shack I found that this model of the IC-703 did not have 50 MHz fitted! (As shown in the brochures.) Reading the instruction book more thoroughly revealed that it was a model made for some of the European countries that did not have access to the 50 MHz Band. I was a little bit cross! I did not remember him saying that it did not have 50 MHz fitted and never thought to ask!

At first glance the IC-703 looks like its 'Big Brother', the IC-706. The same controls with the detachable front panel. The same physical dimensions but without the heat sink and fan on the rear. The IC-703 receives from 500 kHz to 30 MHz and transmits on all HF amateur bands. Although I found out later when making checks for VSWR on a dipole antenna that it transmitted down below the bottom of the 7 MHz band! 'OOPS'. I let go the Morse key! A check later into a dummy load in the shack showed that it had extended transmit coverage. Something to be watched out for in the future. Who had modified it, I will never know.

Over the years I have tried many wire dipole antennas for portable operation. One of the best is a switched 80 metre dipole. This consists of a full 80 metre dipole broken into a 40 metre dipole and a 20 metre dipole with removable metal links. That is, open two links and it is a 7 MHz dipole, open two more links and it is a 14 MHz dipole. No traps, just dipoles. It is a throwback to some of the Traeger aerials used on the RFDS antennas some 60 years ago. I call it my 'Koala' antenna because it goes so well up in gum trees! No doubt many amateurs have seen the dipole antenna pictured in the older ARRL Handbooks using what the Yanks call 'Zip Cord' or Figure 8 flex to us, using the special knot to prevent the unzipped or split flex from splitting any further at the dipole centre point. With a full wavelength on 7 MHz the flex is unzipped or split half way and anchored with the special knot shown, you have a half wave 7 MHz dipole with a balanced feeder. A 4:1 balun is required at the transmitter. An ATU will help to match things up. It works well and is so inexpensive for what it is made from.

On getting the IC-703 I thought I would try the same system with some of that miniature Figure 8 twin speaker flex. I made one up using that special knot at the dipole centre. Haul the centre up on a length of builder's twine into a nearby tree, anchor the ends, attach it to the transmitter via a small 4:1 balun and away you go. I made a mini-balun on a Life Savers size toroid, placed it in an old 35 mm film case with a pair of those older Aegis spring loaded terminals and a short piece of coax to PL259 plug and all was well. The Auto ATU in the IC-703 will tune it up on 80 metres and 40 metres okay. In an emergency situation you could even leave the antenna behind as it costs so little. Hearing many comments on the HF bands about using these 'Squid Poles' to support antennas, I thought I would try one of them.

I purchased a five metre Squid Pole. I made a support with a 300 mm length of star dropper with a short length of tube and clamping system to take the base of the Squid pole.

Articles in *Practical Wireless* showed UK amateurs with restricted spaces using the kids toy the 'Slinky' as a continuously loaded antenna, suspended along a length of nylon rope. I wondered how a Slinky would go as a vertical. I obtained a metal Slinky from a toy shop: caution, there are plastic ones. One end was tinned and soldered satisfactorily and a short length of insulated wire attached. I then cut two acrylic discs the same diameter as the slinky. A small hole to fit the smaller top section was drilled in one disk and a larger hole was cut in the other disk to fit the bottom section. These were each attached to the ends of the slinky with copper wire. An old Aegis spring terminal was fitted to the bottom disk for attaching the coax feed. With the whole system planted in the back lawn I connected up Jim VK5TR's Aerial Analyser via a two metre length of RG8 coax. On tuning it to 7.070, I was amazed to see it read 68 Ω and a SWR of 1.5:1! I did not believe it. I checked it three times; all the same. I then checked it with an old noise bridge. The same result, 50 Ω +. You can be lucky some times. The auto ATU in the IC-703 will easily make it accept RF on 80, 40, 20 and 15 metres with 10 W. The 'Slinky Squid' was born!

Planting the Slinky Squid into the damp sand at the high tide line at a local beach, with about four to five metres of RG-58 coax connected to the IC-703 back on the dry sand, gives good contacts to VK1, 2, 3 and 5. After sunset you may get contacts on 14 MHz into Europe and UK. Sitting on the beach with temperatures of 30°C and wriggling your toes in the sand, it is delightful working these UK and European stations, many complaining about cold and snowing conditions.

Photo 2: The IC-703 HF transceiver portable on the beach, with a Gel Cell supply.

A 4:1 Guanella balun using readily available parts

Paul Murtagh VK3AFB

I read the article by Ron Sanders VK2WB in the November edition of *AR* with some interest as I had been experimenting with the 4NEC2 antenna modeller and optimizer *http://home.ict.nl/~arivoors/* to find the optimum feed point impedance of an offset fed dipole with a 4:1 balun. I too reached the conclusion that 0.2 L was about the optimum point.

The balun

Having difficulty sourcing FT140-43 cores in Australia, I came across an article by VK1OD that used ferrite cores from Jaycar (LO1238). I then made up a 4:1 Guanella balun using these cores and wire also from Jaycar (WB-1709). Using an MFJ-269 antenna analyser, I then measured the transformer action using a 220 Ohm terminating resistor. The results are shown in Table 1 below.

I'm not sure if Ron VK2WB would be interested in measuring power loss using this type of balun with the LO1238 but it would be nice to know.

Figure 1 shows a circuit of the balun.

This is essentially the same as the diagram in Ron's article, Figure 3 Xfmr 421c.

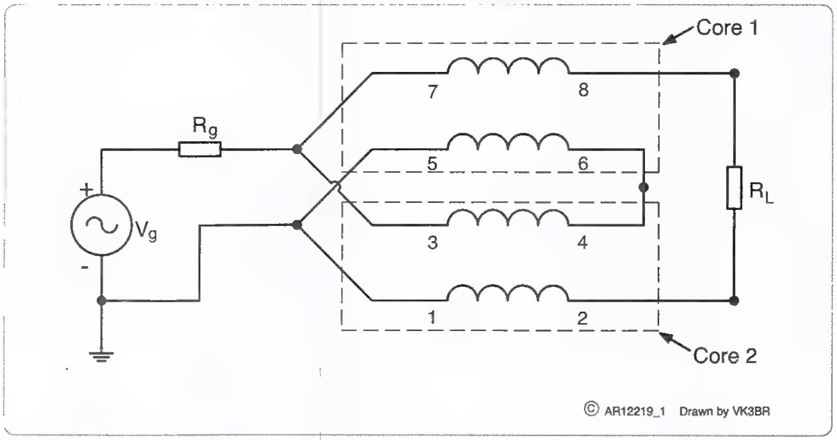


Figure 1: The circuit of the balun.

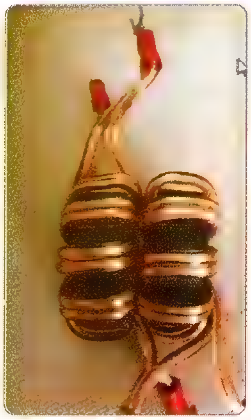


Photo 1: A view of the winding configuration of the balun.

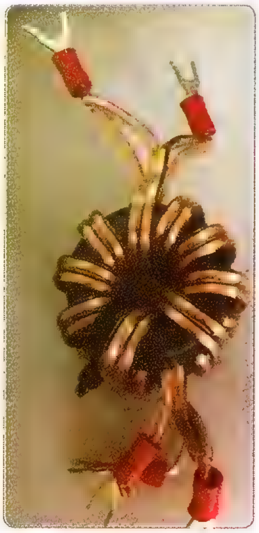


Photo 2: A second view of the winding configuration of the balun.

MHz	Rs	jXs	Zs	Phase	SWR Measured	SWR Calculated	
1.85	56	0	56	0	1.1	1.1	
3.60	56	0	56	0	1.1	1.1	
7.20	56	0	56	0	1.1	1.1	
14.20	59	3	59	3	1.2	1.2	Note 1
21.30	59	10	60	10	1.3	1.2	Note 1
28.30	62	14	64	13	1.4	1.3	Note 1

Table 1: Test results of transformer action with 220 Ohm load.

Note 1: Although kept as short as possible, I'm not sure if Xs is related to the lead length to analyser.

The 4:1 balun is made up of two 1:1 Guanella baluns (often referred to as current or choke baluns) and because of their arrangement (windings 3,4 and 5,6 are in series and 1,2 and 7,8 are not) we have a 2:1 turns ratio which equates to a 4:1 impedance ratio.

Photo's 1, 2 and 3 show the winding configuration. Photo 4 shows a waterproof version.

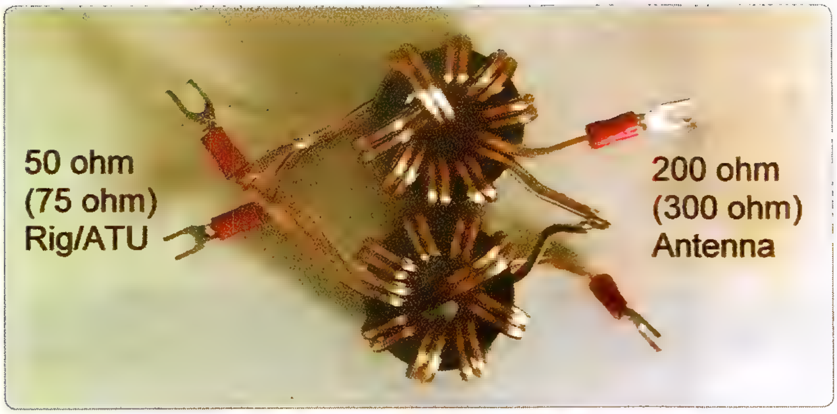


Photo 3: A third view of the winding configuration of the balun.

Photo 4: The waterproof version of the balun.

The reason why this type of balun is sometimes referred to as a 'current or choke balun' is because of its tendency to force equal currents, with opposite phase, in each leg of the balanced connection, independent of the voltage.

Do not be tempted to construct this type of balun on a single core. Yes it could provide a 4:1 impedance transformation, but it will act more as an auto-transformer type of balun rather than a current type. This will lead to feeder radiation in an OFC dipole arrangement as per the Carolina Windom Antenna. This is why the Carolina Windom antenna usually has a choke balun (that is, a 1:1 Guanella balun) 6.71 metres from the 4:1 impedance transformer, the 6.71 metres of feeder line forming part of the antenna.

Note that I've seen some three core balun designs with a 1:1 Guanella Balun followed by a 4:1, to ensure all radiation stays at the antenna!

Balun cable characteristics

The ideal impedance of the cable used to wind the balun is Zcable = SQRT(Zin*Zout) which is 100 ohms in this case. I measured the impedance of the Jaycar cable by measuring the Open Circuit and Short Circuit Impedance with the MFJ-269. Using the formula Zo=Sqrt(Zoc*Zsc), I arrived at 135 Ohm impedance for the cable.

I also determined the velocity factor of the cable by using the MFJ-269 to measure the electrical length of a 10 metre physical length of cable. The electrical length was 13.89 metres giving a velocity factor of 0.72. This is similar to normal coax which is 0.66.

Power handling capability

I have not determined the power handling capacity of the balun but Owen VK10D has tested one at 100 watts continuous on a matched asymmetric load without problems.

Further reading

Owen VK1OD has done some research into these cores for ham radio use. See *http://vk1od.net/balun/G1-1-LO1238/index.htm*

See also Owen's web page *http://vk1od.net/balun/gsc/index.htm* for a complete explanation as to why a 4:1 Guanella balun should be on two separate cores as per Guanella's original article.

In researching it's power handling capability I came across this forum: *http://forums.qrz.com/archive/index.php/t-284708.html?s=15bb2b3d76d19654ee07dc7f264636a7*

For a full description of the theory of operation of the Guanella balun see The Brown Boveri Review, September 1944, 'New Method of Impedance Matching in Radio-Frequency Circuits.' *www.qsl.net/kp4md/guanella.pdf*

Core specifications

See *http://jaycar.com.au/products_uploaded/LO1238.pdf*

Jaycar supply them in packets of two.

The Dimensions of the LO-1238-L15 core are very similar to a FT140-43 core.

Core	**ID** (mm)	**OD** (mm)	**H**(mm)
LO1238	20.8	34.6	12.7
FT140/43	22.7	35.6	12.7

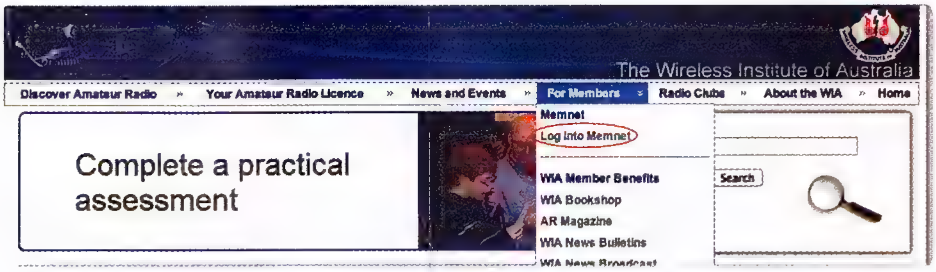
MEMNET – Going Live

John Longayroux VK3PZ

The WIA has implemented a new Membership Management System called MEMNET. MEMNET allows members to verify and edit their personal details, view membership notices and pay member subscriptions on line.

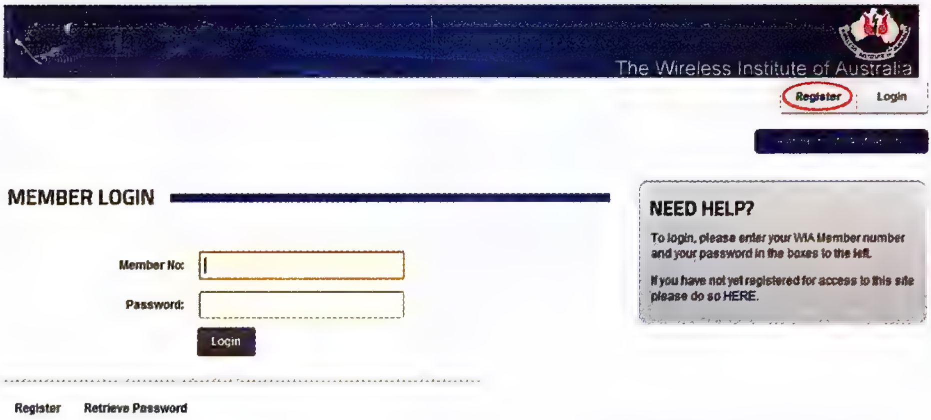
To access the Membership Management System simply follow these steps:

- Access the WIA website *www.wia.org.au*
- Go to **'For Members'**
- Click **'Log into MEMNET'**



First time viewers will need to register as follows:

- Click **'Register'**

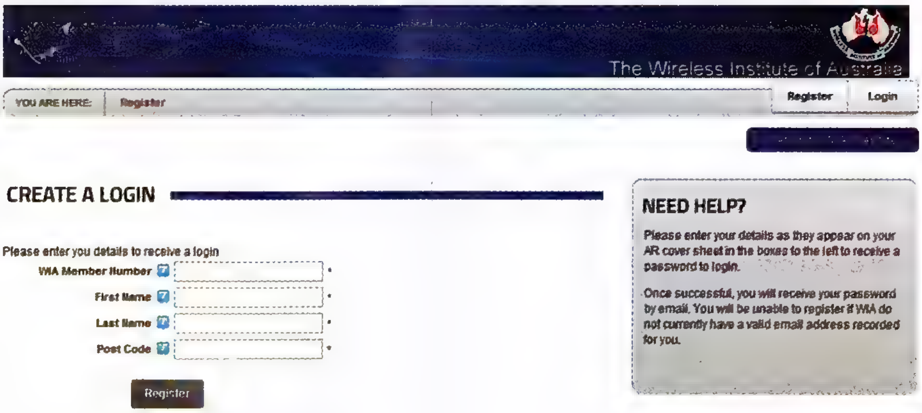


NEED HELP?

To login, please enter your WIA Member number and your password in the boxes to the left.

If you have not yet registered for access to this site please do so HERE.

- To register to and be able to use MEMNET you will need:
  1. Your WIA Member number as found on your WIA membership certificate or *AR* printed on the monthly *AR* magazine address sheet.
  2. You will need to enter your first name or first initial, as displayed on your *AR* magazine address sheet.
  3. Enter your last name.
  4. Enter your postcode.
  5. Hit **'Register'.**

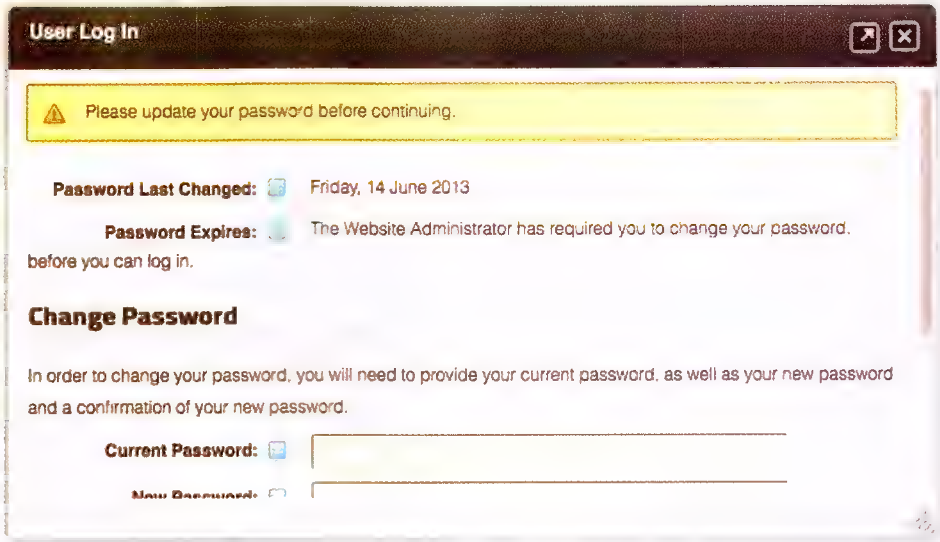


Please enter you details to receive a login

NEED HELP?

Please enter your details as they appear on your AR cover sheet in the boxes to the left to receive a password to login.

Once successful, you will receive your password by email. You will be unable to register if WIA do not currently have a valid email address recorded for you.



Please update your password before continuing.

Password Last Changed: Friday, 14 June 2013

Password Expires: The Website Administrator has required you to change your password before you can log in.

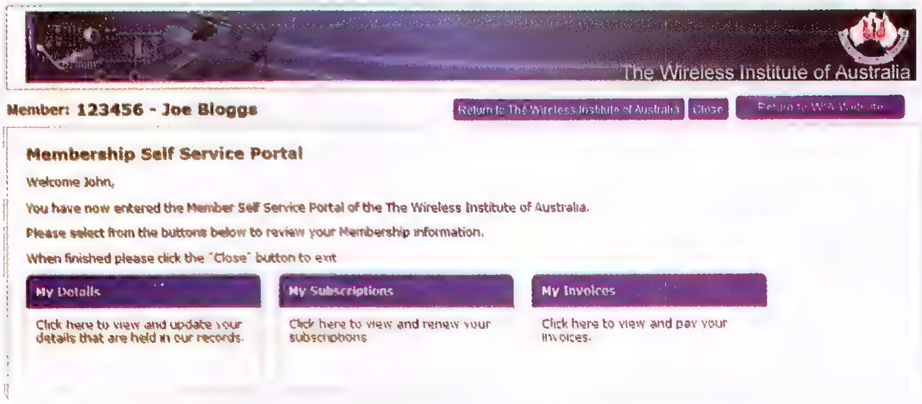
Change Password

In order to change your password, you will need to provide your current password, as well as your new password and a confirmation of your new password.

Current Password:

New Password:

- Once complete, a Temporary Password will be sent to your email address as held by the WIA office.
- If you do not receive an email from the MEMNET system it is possible that the WIA office did not have an email address on record for you, or the address we had was outdated.
- If you did not receive an email from MEMNET system please send an email to *memnet@wia.org.au* and we will update the system with your current email address.
- As mentioned above the email you will receive will have a Temporary Password, on your first logon you will be required to update your password. Please ensure you choose a strong password containing both Upper and Lowercase, at least one Number or special character.


The Wireless Institute of Australia
Return to The Wireless Institute of Australia
Close
Return to WIA Website
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Member: 123456 - Joe Bloggs

Membership Self Service Portal

Welcome John,

You have now entered the Member Self Service Portal of the The Wireless Institute of Australia.

Please select from the buttons below to review your Membership information.

When finished please click the "Close" button to exit

Click here to view and update your details that are held in our records.

Click here to view and renew your subscriptions

Click here to view and pay your invoices.

Once you have logged into MEMNET a screen with your membership details will be displayed.

There are two buttons a the bottom left.

1. '**Contact Us**' you can use this to send a message to the MEMNET Team for assistance.
2. '**My Membership**' which provides access to three on screen buttons to access:
    a. '**My Details**' where you can view and update your personal details as held by the WIA and view any call signs assigned to you and their renewal dates. (note that call sign renewal dates are updated monthly)
    b. '**My Subscriptions**' where you can view your membership status and amend your preferred membership renewal frequency to be either One or Five years.
    c. '**My Invoices**' where you can view your WIA membership renewal invoice.

If you have any questions, please contact the MEMNET Team *memnet@wia.org.au*

Balloon Chase

Liz Billiau VK2XSE

After a long break, the OM and I decided to return to amateur radio. We were enticed by the Wagga Amateur Radio Club to become members, and decided while on a trip to Adelaide to buy a new radio. The purchase price was amazing. A 2 metre rig that could put out 75 W with wonderful electronic controls cost a little over $200. We owned old radios with low output power which had cost a week's wages to buy in the early 80s.

I became fascinated with people who flew balloons with radio gear and watched the progress of Project Horus launches on the net, wondering just what gear I would need to actually track the balloon in real life. Then I found someone who had just launched a balloon near home. Something made me rashly promise to provide some assistance with the next one, and the idea of the home IGate was born. Wagga's linked repeater system does just reach our house, with our beam aimed at VK2RGF on Square Nob for voice use. There isn't good APRS access in the area, and this had hampered communication with VK2URB-11 when it flew from Rankins Springs.

I bought some more radio gear and it still wasn't installed when floods reached our area. Packing up the important things in the house I put all the radio gear up on top of a kitchen cupboard, although a few bits did go missing altogether.

Four months passed before anything really happened with the radio gear. The radio did get installed in the car, a GPS mouse hidden in the car roof under the lining, an attractive antenna centred on the roof, the actual radio out of sight and the control panel unfixed, because we'd lost the screws and bolts.

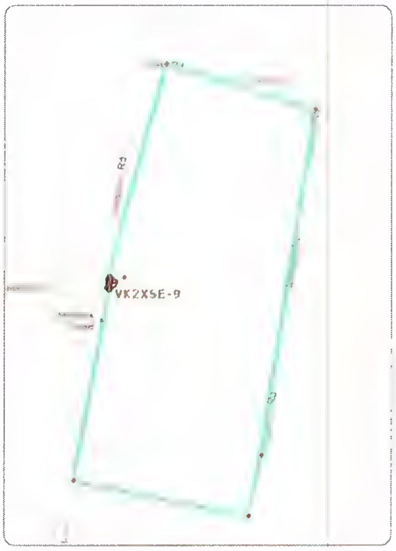


Figure 1: The output from the first drive around the block.

Learning to drive the radio took some hours, after which I could manage a voice transmission and a few more hours to run the APRS beaconing. It is very difficult to test anything like that with no access to the digipeater network.

Just as I was thinking about the IGate again, Robert VK2URB announced a date for his next balloon launch. I wasn't going to have the home based IGate ready, nor would it guarantee RX/TX out to Rankins Springs. I suggested that I take the vehicle to Mount Bingar, the broadcast site about 300 metres above the plain, and operate a mobile digipeater service from there into VK2RGF.

The early predictions on the balloon flight path suggested a flight about 100 km northwards. This meant I would be more useful as part of the balloon chase. There are no digipeaters in the area and with no other amateurs available to assist, the technical side of running a mobile IGate through a GPRS connection to the internet required solving.

The radio was up to the task, a small netbook was set aside for the computer control and a wireless internet dongle was available for the GPRS connection. I needed software and maps, and then to connect all the pieces together in the car.

I use Linux - usually Debian - for my computing so I started looking at the ham radio software available through Debian repositories to choose some software, installing a few programs to look at the possibilities. Xastir was chosen as it offered the ability to control the radio, perform IGate duties, and track objects on a map. Later I realised that it didn't digipeat packets, and that would have been useful.

I also ran some tests with the connection hardware, and found that the USB sound card modem wasn't going to work with the program I had chosen. It worked with some programs and not with others. I ordered some direct connection cables for the radio, and a USB serial converter.

The first install of Xastir was promising, but the maps were not suitable. No maps which could be downloaded for use with the program showed any minor roads in the area of interest. More internet research showed that it could be possible to convert some other digital maps I had purchased into a format which Xastir could use. My first conversion attempt caused a consistent crash of the program. Other hams on the Xastir mailing list lent a hand, finding me more details on the map format required, and another build of the program which didn't crash.

My maps still weren't able to display on the screen, with a week

Photo 1: The laptop and ancillary gear on the dash of the vehicle.

before the deadline of the balloon launch. Thankfully I'd paid for the education of one young man in the ways of geographical information systems and surveying, and he was able to sort out the format of the maps so I could use them. Now I had usable maps which covered from Rankins Springs and to the east and north, a program on the little computer which would display them, and I waited for the cables to arrive.

I tried to get Xastir set up ready on the netbook, but a lot of things don't make much sense when you can't experiment with the radio attached. I wasn't sure how to set up the radio either, and happily plugged the cable into the radio instead of the control unit, so I spent some hours trying to get the system to work with a basic mistake waiting to be found. I flattened the car battery and returned to the house. Then I fiddled with a separate GPS receiver and the computer before deciding to read the radio instruction manual. I was thinking that I had the baud rates set wrongly which was preventing communication.

A fresh start with the cable connected correctly was far more fruitful. The internet connection had given no trouble, and now I could control the radio with the computer. Xastir told me that it didn't have a GPS fix so I did some more experiments with that. Back indoors I tried more GPS hardware until one device and Xastir worked together. Then I tested with an internet connection and confirmed I could transmit my position through the IGate. Checking further, I found that I had already sent my position from the car, but now had no idea which combination had actually sent the data. Was it the separate GPS? Was it from the radio? If from the radio, which version of the configuration file?

One free day left to work on those problems before the balloon launch.

The day is in the school holidays, and I'm not sure if my friend who is to come to assist me realises that. She has three school age children, and I thought I would be getting a high school child on loan, but would prefer an adult so we could share the driving and the navigation.

Test day

The screen on the computer is too small and too dark to read in the car. I put a jumper over my head and the computer but still it's really hard to see anything. I need to find out why it doesn't send any position information. Somehow I haven't got the radio or the computer configured correctly.

After a few attempts I gave in and attach another GPS to the computer. This system then sends out position packets. A short drive around the block produces output when I drive round the block. The positions are past the corners, because 'smart beaconing' is in use.

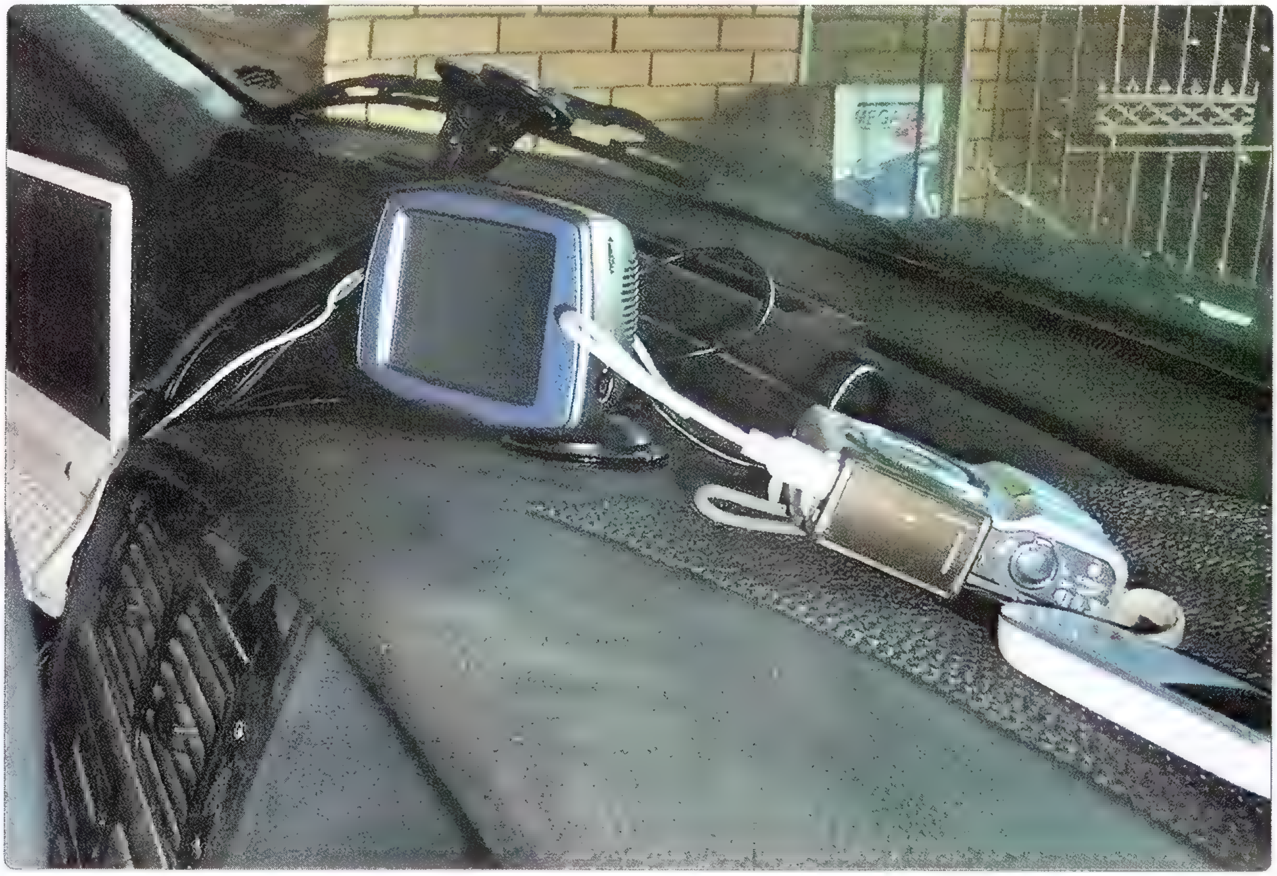


Photo 2: *Another view of the positioning of the electronic gear in the vehicle – to try to 'get it all right'.*

I now have quite a variety of electronic gadgets across the dash of the car.

I had to visit the next town, and everything worked fine on the way home. I hadn't been able to test digipeating or sending other people's packets into the APRS-IS system, because there is only so much you can do with one radio alone.

Balloon launch day

Tuesday arrived, and I packed lunch, radio and computer gear, and collected one young male assistant from my friend. We drove to Rankins Springs, found the party at the cricket pitch, not the footy oval. First win for APRS - we found the other amateurs.

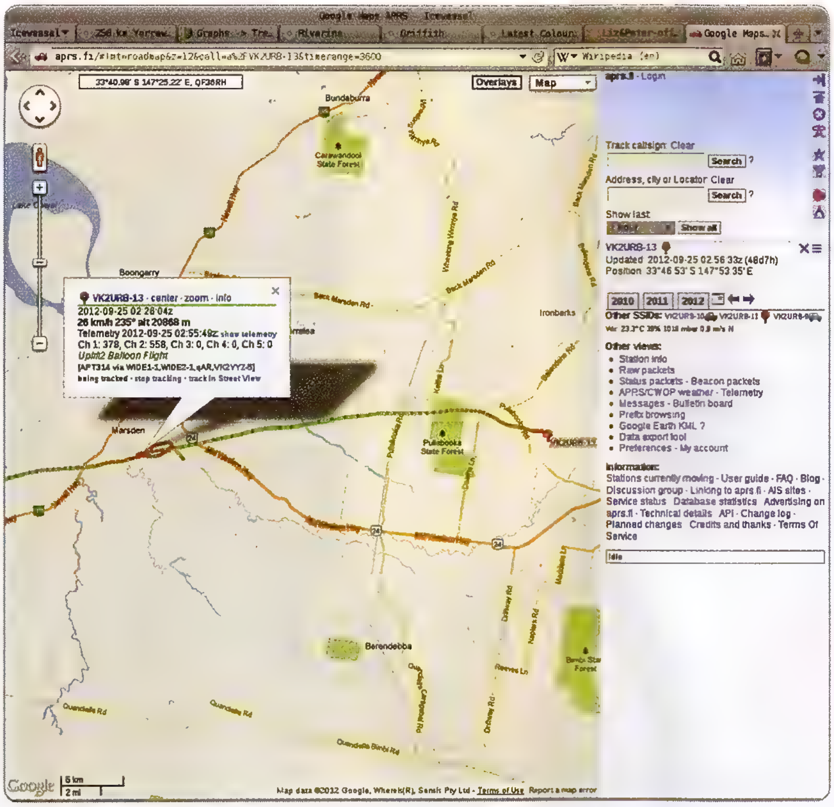
Photo 3: The scene just prior to the launch.

Altogether a dozen people witnessed the launch.

A few local kids came to see what we were doing, joining the party of amateurs and a small crew filming for a TV program.

Murphy had been busy. It had been planned to use the local Telstra 3G tower to transmit some video of the event, but the Telstra tower was out of service. My gear was communicating with the Optus service, so was still functional until the GPS dongle died. The tracker intended to be used with the balloon also died, and the second tracker had a different ID number, making it hard for persons following on the internet to find the action.

Our flight predictions from a few days earlier were completely wrong, with the balloon reaching over 200 km/h in the jet stream, heading almost due east, not north as predicted.



VK2URB-13 · center · zoom · info
2012-09-25 02:28:04z
26 km/h 235° alt 20868 m
Telemetry 2012-09-25 02:55:49z show telemetry
Ch 1: 378, Ch 2: 558, Ch 3: 0, Ch 4: 0, Ch 5: 0
Uphill2 Balloon Flight
[APT314 via WIDE1-1,WIDE2-1,qAR,VK2YYZ-8]
being tracked · stop tracking · track in Street View

aprs.fi - Login

Track callsign: Clear
Search ?
Address, city or Locator Clear
Search ?
Show last
Show all

VK2URB-13
Updated: 2012-09-25 02:56:33z (48d7h)
Position: 33°46.53' S 147°53.35' E

2010 2011 2012

Other SSIDs: VK2URB-10 VK2URB-11 VK2URB-9

Other views:
- Station info
- Raw packets
- Status packets - Beacon packets
- APRS/CWOP weather - Telemetry
- Messages - Bulletin board
- Prefix browsing
- Google Earth KML ?
- Data export tool
- Preferences - My account

Information:
Stations currently moving - User guide - FAQ - Blog - Discussion group - Linking to aprs.fi - AIS sites - Service status - Database statistics - Advertising on aprs.fi - Technical details - API - Change log - Planned changes - Credits and thanks - Terms Of Service

Idle

Figure 2: The location where the balloon eventually landed.

The party was restricted to travelling at 100 km/h over the ground, and eventually caught up with the balloon east of Marsden and west of Grenfell, where the payload landed after the balloon burst at almost 21000 metres altitude.

The chase was an adrenaline rush, but then the actual task of finding the payload became more tedious, and our car had to return home before dark, so we left before the items were finally located.

Of course there are the usual lessons to be learned - test your gear before you go, take spares, but overall, expect to have a great day.

Special thanks to Robert VK2URB who organised the balloon flight.

GGREC HAMFEST

Saturday 20th July 2013

Gippsland Gate Radio & Electronics Club Hamfest at our LARGE venue, the CRANBOURNE PUBLIC HALL, located at the corner of Clarendon St. and High St. Melway 133 K4. See our web page at http://ggrec.org.au/hamfest

40 tables of new and used Electrical, Electronic and Amateur Radio equipment.

- Everything is under cover.
- Tea and Coffee available during the event.
- A selection of hot & cold food will be available.
- Great Door Prizes will be drawn at approx 1.00 pm.
- Doors open to sellers at 8.30 am & buyers at 10.00 am.
- Buyers can gain entry for $6.00.
- Sellers will pay $20.00 per table, which includes entry.
- Proceeds from the sale will go to Gippsland Gate Radio & Electronics Club's ongoing promotion of Amateur Radio.

Persons wishing to reserve a table position must contact Steve Harding now on 0408 878934 or email hamfest@ggrec.org.au Book early, positions are limited!

Views from the WIA Conference

Listening to Fred Swainston VK3DAC on Training.

Mast & antenna: WA VHF Group Antennas at Wireless Hill.

John Longayroux VK3PZ receiving his Chris Jones Award from WIA President Phil Wait VK2ASD.

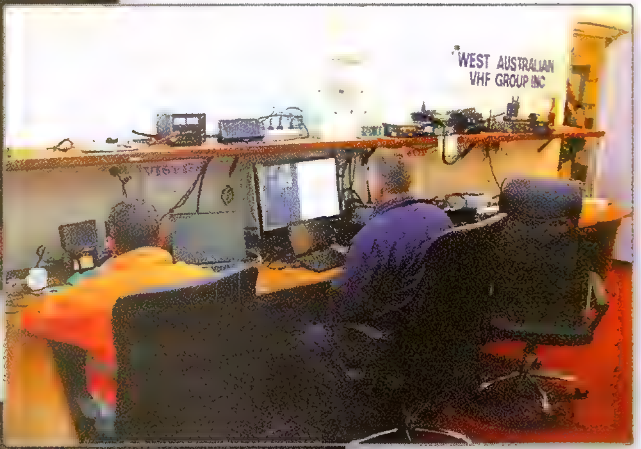
Professor Lyn Beazley operating the station set up at the Conference Dinner, activating the special callsign VI6PROF.

Wireless Hill 100 year old Communications station.

Wireless Hill Museum displays after its 2012 Centenary.

Wireless Hill Museum full of intrigued Conference Guests.

WA VHF Group 'Eric Smith Room' Radio Shack in Wireless Hill Museum.



Professor Lyn Beazley and Onno VK6FLAB musing over a photograph, with Onno holding the plaque of appreciation.

Trent Sampson VK4TS about to start his presentation on contesting.

Photographs by Heath Walder VK3TWO/VK6TWO, Bill Rose VK6WJ, Eddie Saunders VK6YA and Onno Benschop VK6FLAB.

ALARA

Margaret Blight VK3FMAB – Publicity Officer

Office Bearers

President:	Jean Fisher VK3VIP
Snr. Vice President:	Tina Clogg VK5TMC
Jnr. Vice President:	Shirley Tregellas VK5YL
Secretary:	Jean Kopp VK5TSX
Treasurer & Membership Secretary:	Catherine Hammond VK4GH
Minute Secretary:	Tina Clogg VK5TMC
Editor:	Susan Coleman VK3UMM
Publicity Officer:	Margaret Blight VK3FMAB
Historian/Librarian:	Sue Southcott VK5AYL
Contest Manager:	Lesley Smit VK5LOL
Sponsorship:	Maria McLeod VK5BMT
Awards Custodian:	Marilyn Syme VK3DMS

State Representatives

VK1/2:	Dot Bishop VK2DB
VK3:	Jean Fisher VK3VIP
VK4:	Lyn Battle VK4SWE
VK5/8:	Jean Kopp VK5TSX
VK6:	Bev Hebiton VK6DE
VK7:	Shirley Hardstaff VK7HSC

The ALARA AGM was held in May, and was an interesting event because it was a combination of operators on 80 metres plus participants through EchoLink. A total of 16 members took part. EchoLink was patched to the 80 metre repeater through Shirley VK5YL who did a great job of handling both forms. As a result everyone involved was able to obtain a clarity that is not always available on the air. Operators from interstate could be heard clearly which enabled the meeting to proceed smoothly. Everyone was also interested to hear from Tony GO0OR and his wife Lorna 2EOYAO from the U.K. who came up on EchoLink and listened in to the meeting.

ALARA Award

This award is available to YLs, OMs and SWLs contacting ALARA members on or after 1st July 2006. Anyone who holds an original award may apply for the new award.

Method of Scoring:

VK/ZL: 10 contacts, including four Australian call areas.
DX: Five contacts, including three Australian call areas.

Conditions: All contacts must be made from the same call area. Repeater contacts and official ALARA net contacts do not qualify; however, contests DO qualify.

Applications: Applicants must submit a *log extract* signed and declared to be a true record of contacts made. Headings must include date, time (UTC), band, mode, callsign and name of the ALARA member contacted.

Addresses: The full name, address, signature and callsign of the applicant is required.

Costs: Fee, to accompany each application for the award is **AU$5** or equivalent four IRCs. Forward to: Marilyn Syme VK3DMS, 99 Magnolia Ave, Mildura. Vic. 3500. Australia.

VK3 News

The May ALARA lunch was held at the North Point Cafe in Brighton East. Despite the day initially being grey and wet, we had a total of 14 people attending.

On this day we had a special guest, a visitor from Finland, Marita OH5KIZ.

Photo 1: Marita OH5KIZ, the ALARA special guest at their May luncheon.

Photos 2: ALARA lunch: L-R. Naree, Margaret VK3FMAB, Marian, Barbara VK3FBJD, Donna, Kerry, Marita OH5KIZ, Jean VK3VIP, Susan VK3UMM, Elaine VK3EQY.

Her initial reason for visiting Australia was to attend a Nursing Conference in Melbourne, commencing on 18th May, and where she was to present a paper. She arrived a few days earlier in order to visit some of our tourist spots.

Marita had arrived early for the lunch hoping to discover the Brighton Bathing Boxes which she had heard about. Unfortunately they were not visible from near the cafe but Margaret VK3FMAB, Elaine VK3EQY and Marian drove her to see them later in the day. The boxes were very distinct and colourful so Marita had plenty of opportunity to view them and take photos.

The Moorabbin Hamfest was also held in May. Jean VK3VIP, President of ALARA, manned the ALARA table. She was joined by Tina VK5TMC and her OM who were visiting from Adelaide. There were also visits from ALARA members Ellie and Donna. Interest in the table was high and a number of ALARA pens and badges were sold.

Photo 3: Tina VK5MTC and Jean VK3VIP at the ALARA table.

Silent Key

Gwen Tilson VK3DYL

Gwen Tilson VK3DYL passed away on 20th May in the Ballarat Hospital, Victoria. In recent years she had moved to the area for health reasons and to be close to family. For many years Gwen was an active member of ALARA and was very encouraging of other women operators. She personally sponsored many overseas YLs and regularly attended the International Meets. As a consequence she was very widely travelled and was well known to amateurs around the world. Over the years she also achieved many meritorious awards which for a long time were displayed on the walls and in the stairwell leading to her downstairs shack when she had her home in Melbourne.

Gwen was a Life Member of the Eastern & Mountain District Radio Club (EMDRC). She was an avid DXer and her callsign appeared near the top of the DXCC Honour Roll. For many years Gwen was the QSL distribution officer for EMDRC and she regularly brought a large box of QSL cards to club meetings.

In an early profile of her introduction into amateur radio, Gwen credited her son and husband for encouraging her to join the hobby. She was first licenced as VK3PGT in December, 1980. Shortly after going on air, she developed an interest in DXing and realised that having a YL's voice could be an advantage. This certainly proved to be the case. She then aimed to achieve the DXer's ultimate goal of working all current DXCC countries. Through hard work and determination Gwen finally achieved this ambition after 12 years. She upgraded her licence to VK3KYL and then to VK3DYL.

Gwen thoroughly enjoyed 'chasing new countries and chatting to friends all round the world'. She also helped with JOTA for a number of years and operated portable W3, W6 and KL7.

Gwen has proved to be an inspiration to a large number of amateurs and will be sadly missed.

Over to you

ACMA - What's in a name?

I recently read the 'WIA Submission on the High Power Trial', dated 23 April, 2013, and published on the WIA website on 15 May, 2013. One thing struck me about the submission in particular: The use of 'the' ('definite article') before the acronym ACMA, by the WIA. I recalled that I had previously heard this usage in a radio or TV report, but not seen it in print. Finally, I understood the way the Australian Communications and Media Authority (ACMA) self-references, how this had become part of the industry lingo, including the WIA, and how different it is from other parts of the Public Service.

It is grammatically correct to say 'the ACMA' in either way that it might be used, as 'the ay-cee-em-ay' or as 'the ak-ma', because it is understood that it refers to 'the Australian Communications and Media Authority'.

Yet, other Federal government authorities are not generally accorded this definite article treatment. Think of DoFD (Doff-Dee) Department of Finance and Deregulation, DFAT (Dee-Fat) Department of Foreign Affairs and Trade, FHCSIA (Fak-see-ah) Department of Families, Housing, Community Services and Indigenous Affairs, PM&C (Pea-Em-and-See) Department of the Prime Minister and Cabinet, and DOD (Dee-oh-Dee) Department of Defence and the associated DSTO (Dee-ess-tee-oh) Defence Science and Technology Organisation. An exception is the Australian Defence Force, typically getting 'the ADF'.

So, it seems that the ACMA has developed a self-talk and self-referential style with the definite article, in speech and print, and that this is now part of the normal usage. The ACMA deserves recognition for this special status. Well done, the ACMA. And, please note that 'the WIA' is how most of us refer to our organisation.

Perhaps someone in the ACMA can explain the history of this usage.

Peter Ellis VK1PE.

VK5news Adelaide Hills Amateur Radio Society

Christine Taylor VK5CTY

The May meeting was full of stories about lighthouses. Paul VK5PAS told us about the origin of the idea of the Lighthouses of the Air radio contact weekends and mentioned some of the countries heard.

At Paul's suggestion, a group from AHARS went to Kangaroo Island last year to activate the Cape Willoughby Lighthouse, and others plan to do the same this year. This made the talk of considerable significance to the AHARS members who did not participate last year and to those thinking about it for this year.

Much of what he told us has been printed in *AR* magazine but that did not make it less interesting. Paul has dug deep into the history of the concept of making amateur radio contacts with lighthouses all round the world. All of which started in Ayr in Scotland and now covers the whole world.

The fact that there are now several groups in other countries who have espoused the idea shows how interesting amateurs are in making these contacts. 'Imitation is the greatest form of flattery'?

As it happens, the date of the weekend coincides with the Remembrance Day Contest in Australia, so there was and will be no lack of contacts from VK amateurs. In addition, as Cape Willoughby lighthouse is on an island there is also considerable interest in amateurs chasing the IOTA (Islands on the Air) contacts.

Adelaide Hills is also promoting an award for contacts made from within National Parks and Conservation Parks of South Australia. The details are on the Club website *www.ahars.com.au* So check them out before you go away the next time.

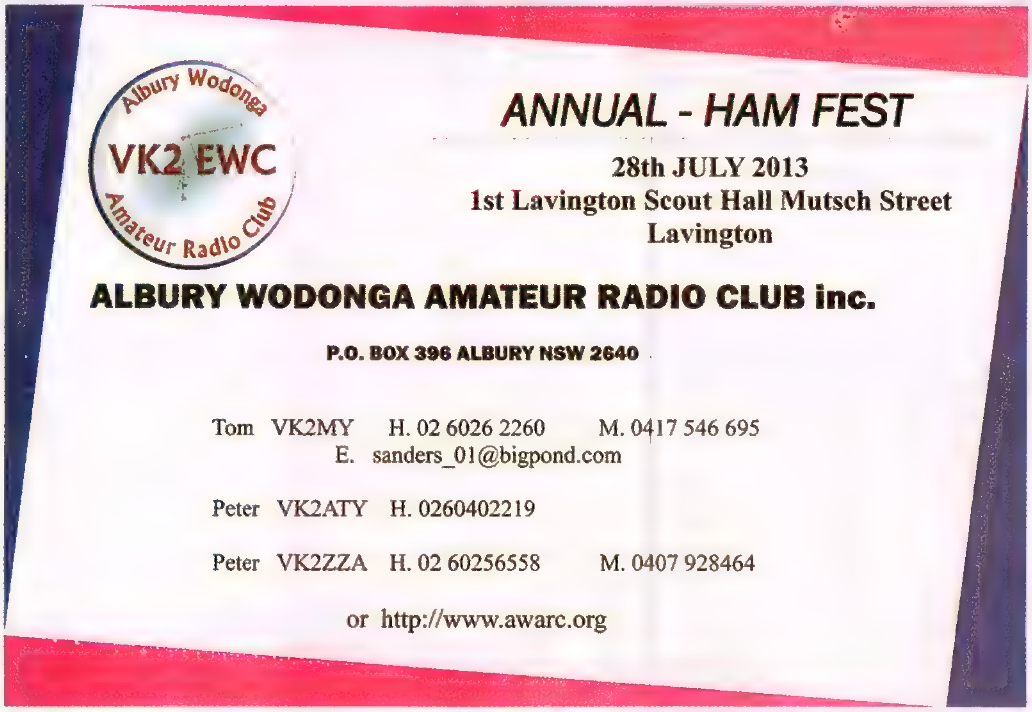
The month of May tech talk at the shack was presented by David Wilson VK5LSB and the topic was CPR and Basic Life Support and using an AED/Automated External Defibrillator.

The presentation was relevant to amateur radio as CPR is a skill that all operators should have as we all play with electric current and electronics generally; and some day you might use the skill to assist a fellow family or community member. All members found the presentation quite educational and rewarding on the day.

We have now sold over 300 of the analyser kits, thanks to the helpers who purchase parts, pack the kits and post them.

Due to the retirement of Robert Clogg as Club Treasurer from the 2014 AGM, we are looking for a volunteer to take over. By volunteering now, there is plenty of time to learn the ropes. Please contact David VK5KC if interested.

AHARS holds its meetings on the third Thursday of the month in the Blackwood Community Centre on Young Street Blackwood. We start at 7.30 pm. Please check the website for the latest details.



Albury Wodonga VK2 EWC Amateur Radio Club

ANNUAL - HAM FEST

28th JULY 2013
1st Lavington Scout Hall Mutsch Street
Lavington

ALBURY WODONGA AMATEUR RADIO CLUB inc.

P.O. BOX 396 ALBURY NSW 2640

Tom VK2MY H. 02 6026 2260 M. 0417 546 695
E. sanders_01@bigpond.com

Peter VK2ATY H. 0260402219

Peter VK2ZZA H. 02 60256558 M. 0407 928464

or http://www.awarc.org

VK2 news

Tim Mills VK2ZTM

e vk2ztm@wia.org.au

The next Foundation course and assessments to be conducted by ARNSW will be later this month. The Foundation course will be over the weekend of Saturday the 20th and Sunday the 21st July, with an 8.30 am start both days. Assessments for all licence grades will be on Sunday the 21st from 9 am. The location is the VK2WI site at 63 Quarry Road, Dural. Bookings for both the course and assessments are required by an email to *education@arnsw.org.au*

Some of the activities in VK2 over the next few weeks include: The WICEN NavShield over the weekend 6th and 7th July. The Waverley ARS will hold their annual auction at their Rose Bay club rooms on Saturday morning the 6th July. The Hunter Radio Group hold a Ladies night twice a year. This year they have decided that it's too cold for the July event so they will hold the 'Ladies Night' with a lunch on Saturday the 13th at Cardiff. Sunday the 28th July is busy with the AWA Centenary reunion at Burwood, the Albury/Wodonga field day in Lavington and the bi-monthly Trash and Treasure at VK2WI. The Illawarra ARS was unable to hold a June meeting due to building maintenance at the hall. They will be back there for the July meeting on the 9th.

In August Oxley Region ARC will have their AGM on Saturday the 3rd. Summerland ARC will have SARCFEST Sunday the 11th at Richmond Hill and September the 15th will be Westlakes Field Day at the club rooms. Waverley ARS will hold their next Foundation weekend on September 7th and 8th. They held their AGM in May with no change in committee positions.

In early May the Blue Mountains ARC held their AGM with Richard VK2BO President, Alf VK2YAC Secretary and Carl VK2HRC as Treasurer. They advise that they will not be holding a Winterfest field day this year. In late May the Hornsby and District ARC held their AGM with little change in the major positions. John VK2ZOI is again President, Rod VK2DAY Vice President, Bob VK2ZRM Secretary, Andrew VK2TAN Treasurer and Peter VK2TTP a committee member. A new committee member this year is Colin VK2JCC.

73 – Tim VK2ZTM.

Over to you

Greetings.

A number of us use lead acid batteries of one sort or another to power amateur equipment and other devices. I recently purchased a semi sealed deep cycle lead acid battery. I like to be sure that I am getting what I pay for, so I made sure that the battery was fully charged with a conventional charger and a little while later with a three stage smart charger.

In between each charge I discharged the battery with a tester I made up that will discharge the battery connected at any current between 0.8 A and 12 A as set, and when the voltage reaches 11 volts the whole device shuts down so the battery is not discharged below what is classed as flat. I have a quartz analogue clock attached to the device so the amperes by the time calculation will give me the useable AHC of the battery, to within a few percent of dead flat. I discharged the battery at the 20 hour rate and found that its capacity was around 60% of the stated capacity. This battery had been in stock for some time so this may explain this low AHC percentage, although I am beginning to doubt that. I returned it as I do want the stated capacity to run my equipment.

I got another new battery which had a claimed capacity of 120 AHC at the 20 hour rate. This gave me an AHC of 72 amp hours when discharged to 11 volts at the 20 hour rate, after having been charged correctly. This was returned and grudgingly I was given my money back. I visited a couple more battery suppliers; one said he expected around 80% of the listed AHC capacity, the other one estimated around 50 to 60% of stated capacity. They seemed to believe that this was normal. I don't, or if it is then we have deceptive claims being made about the batteries.

So I would suggest anyone who is obtaining a battery to run their equipment needs to thoroughly check that they are getting what is claimed on the specification plate on the battery. The batteries may meet the cranking amps but they are certainly not meeting the claimed capacity. Maybe the ACCC might look into this; certainly it could be claimed that the batteries are not fit for purpose, as they do not meet their claimed specifications.

Best Regards.

Rodney Champness VK3UG

Over to you

Antenna design considerations

AR May 2013 pp52 and 53.

Hello Chris and Luke,

I found your article interesting because it points us back to the early days of long-wire antennas, rather than the modern tendency to have dipoles with quarter-wave legs. However, there are a few problems in and possible omissions from your text, which I have addressed below.

73 de Brian VK2GCE.

Doublet antenna

When each leg of the doublet is λ/2 long, you have a λ/2 transformer, one of whose principles is that the impedance at each end is the same. So, the impedance at the feed-point of your doublet will be about as high as the insulated outer ends, say 10 kΩ. The same holds for any multiples of λ/2. So, at the second and third harmonics, the feed-point impedance will still be about 10 kΩ.

If your transmitter wants to see 50 Ω, then you need some form of impedance matching unit. You could use a transmission line transformer. When the transmission line is λ/4, to perform this impedance transformation, its required impedance needs to be √(10 kΩ x 50 Ω) = about 700 Ω. A slightly wide 600 Ω ladder line will be close enough. But for this to work, you cannot use just any old length and also expect it to work on several bands. If you choose to make it λ/4 at your lowest frequency (say 80 m), it would be 2λ/4, ie, λ/2 at the second harmonic (40 m) and 3λ/4 at the third harmonic (30 m). Now, the λ/2 ladder line will behave as in the first paragraph, ie, it will reflect the feed-point impedance of the antenna, ie, about 10 kΩ, and the 3λ/4 ladder line will act like the λ/4. In other words, even harmonics (20 m, 10 m) will present an impedance to your antenna coupling unit (ACU) that probably cannot be managed – I don't know of any ACU that can handle 10 kΩ. The odd harmonic frequencies (17 m, 12 m) will be managed OK, possibly without an ACU.

If you use a bal-bal of 16:1 impedance ratio (4:1 turns ratio) between your antenna feed-point and your ladder line, then the length of your ladder line won't matter, because you are feeding it with its characteristic impedance. Then, the ACU will only need to handle 600 to 700 Ω on all three frequencies. Many ACUs can do this, but not all.

The adage that the higher you can get your antenna the better is not true. The problem here is that you have not defined the particular criterion that is being optimised. The feed-point impedance of the antenna varies with height above ground; it increases almost linearly with height up to about λ and then varies up and down. (See almost any text on antennas.) The other main effect of antenna height is take-off angle. The higher your antenna, the lower the take-off angle, the greater the skip distance and hopefully the greater distance covered before your signal returns to Earth after reflecting from the ionosphere. The fewer the ionospheric and Earth reflections, the lower the attenuation of your signal at the receiver.

In your next paragraph, you refer to matching units, and demand a balanced input. The usual configuration finds the output of the transmitter (unbalanced) fed to a low-pass filter (LPF) (unbalanced) and then to the input of the ACU (unbalanced). I suspect it is the output of the ACU that needs to be balanced.

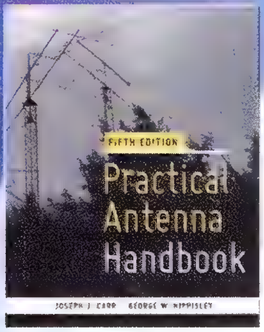
Tribanders

Perhaps you have some evidence to support your assertion that traps tend to reduce antenna efficiency. The main effect of traps is to reduce the 'working' bandwidth of the antenna. By 'working' I mean that the VSWR increases more rapidly away from the design frequency than with a straight wire. If a trap produces lower efficiency, then there is likely to be corrosion or high resistance within the trap or between the trap and the antenna elements.

Verticals

A ground system can be a series of low impedance Earth rods close to the antenna feed-point, an Earth mat, eg, chicken wire left on top of the ground to become incorporated into the ground by grass growth, or tuned counterpoises, at least four tuned to λ/4 for each band. The military suggest at least 160 such counterpoise wires to form a good ground – the broadcast industry offers similar advice.

Brian Clarke, BE, PhD, FIEAust, CPEng, VK2GCE


FIFTH EDITION
Practical Antenna Handbook
JOSEPH J. CARR GEORGE W. HIPPISLEY

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VK3news Geelong Amateur Radio Club

Tony Collis VK3JGC

The GARC at Queensciiffe Borough 150 year celebrations

For several years now the Geelong Amateur Radio Club (GARC) has worked in partnership with the Queensciffe Maritime Museum to celebrate, annually, the first Marconi radio CW transmission from Point Lonsdale to Tasmania on 12 July, 1906. The Hut contains a copy of the message sent by Governor General Northcote to the Governor of Tasmania, Gerald Strickland. The message read: *'The Commonwealth greets Tasmania, and rejoices at the establishment of new means for knitting people of Australia more closely together.'*

To commemorate this, a replica of the original Marconi Hut was designed by a team from the GARC, led by Calvin VK3ZPK and built by apprentices from the Gordon TAFE, with materials supplied by Keith Fagg of Mitre 10 Hardware, for the 100 year anniversary, in 2006. The Hut was eventually moved to its present position in the Queenscliffe Maritime Museum grounds. The Hut also contains a copy of the message sent out by the RMS Titanic on 15 April, 1912 when it struck an iceberg on its maiden voyage from Southampton UK to New York City, USA.

Photo 1: The Marconi hut.

The event was well manned on both days by the GARC, those attending during the celebratory weekend were Dallas VK3DJ, who is the club's liaison officer with the Museum, Calvin VK3ZPK, Ken VK3NW, Gary VK3FWGR, Vanessa VK3FUNY, Craig VK3VCB and Tony VK3JGC. The antennas used during the two days were a G5RV, an elevated 20 metre quarter wave vertical and a two metre vertical mounted on the hut roof. Contacts were mainly with VK on the HF bands during the early part of the day and it was not until mid-afternoon that Europe and the USA started to make their presence felt; but by using the clubs VK3RGC repeater on 147.125 MHz in conjunction with its IRLP node 6572 facility, a number of international contacts were made outside of VK

Photo 2: Seated are Dallas VK3DJ, on the left, and Calvin VK3ZPK.

land. The weather, whilst sunny, was very cold on both days but Gary and Vanessa had made available a hot water supply for drinks and barbeque which was welcomed by the participants.

The museum had several hundred visitors during the two free access open days, a percentage of which ventured into the grounds and visited the Marconi hut to see what the GARC was doing. Subject to an agreement with the Museum authorities the GARC would like to establish a more durable antenna system alongside the hut for future use.

Photo 3: The entrance to the Queenscliffe Maritime Museum.

SOTA

Allen Harvie VK3HRA

Whilst there have been a few drenched activations overall the weather has been congenial for activating. Winter is finally here and so the bonus activation period is upon us presenting opportunities for adventurous activators to take advantage of the increased scores for the higher summits.

Congratulations go out Ron VK3AFW and Allen VK3HRA who achieved 1000 chaser points obtaining the Shack Sloth award. VK3KAB achieved 100 activator points in a hurry.

Activity was hectic with 18 unique activators active over the month. We welcome new activators VK3DEE, VK1FB, VK3XL and VK3PI. VK3DEE activated three summits whilst VK3PI gained a S2S and multiple band activations including six metres on the first venture.

The highlight of the month was activations for the new VK9 region. The VK9NT DXpedition team received notification on 2nd May confirming that the SOTA VK9 (External Territories) for Norfolk Island had been approved in time for the expedition to Norfolk Island planned to commence 3rd May. Several conversations with the DX team during the week confirmed they intended to activate VK9/NO-001 on Saturday 11th. It was the quick and the dead. The first VK9 S2S goes to Wayne VK3WAM who gathered his gear and headed up to a local summit when he heard that VK9NT had decided to activate the new SOTA summit on Thursday, earlier than the originally planned Saturday. On Saturday there were several stations out and waiting for the VK9 activation to gain VK9 S2S contacts. Rik VK3KAN, Marshall VK3MRG, Allen VK3HRA and Wayne VK3WAM made S2S contacts with VK3CBV/9 and VK3QB/9 under harsh conditions.

Summaries of activations and upcoming plans are being documented via blogs. The subjects covered are broad and provide a valuable source of information for planning activations as well as an insight to the experience from the other side.

VK SOTA Blogs

Andrew	VK1DA	*http://vk1da.net/blog*
Ian	VK1DI	*http://vk1di.blogspot.com/*
Ed	VK2JI	*http://vk2ji.com*
Warren	VK3BYD	*http://vk3byd.wordpress.com/*
Allen	VK3HRA	*http://vk3hra.wordpress.com/*
Marshall	VK3MRG	*http://vk3mrg.weebly.com/*
Peter	VK3PF	*http://vk3pf.wordpress.com/*
Wayne	VK3WAM	*http://waynemerry.wordpress.com/*
Glenn	VK3YY	*http://vk3yy.wordpress.com/*
Peter	VK3ZPF	*http://www.vk3zpf.com/*
Andy	VK5AKH	*http://vk5.akh.id.au/*
Andy	VK5LA	*http://vk5la.wordpress.com*
Paul	VK5PAS	*http://vk5pas.wordpress.com/*

73 for now.

VK4news QTC - The voice of amateur radio in Queensland

Mike Charteris VK4QS
e *mikevk4qs@gmail.com*

Brisbane Amateur Radio Club

In news from BARC this month, the Club tells us that on May 11th it celebrated the success of its 30th BARCFEST at the Mount Gravatt Showgrounds. Despite numbers being down on previous years, it was a great atmosphere with an enthusiastic gathering of amateurs and their friends. The trade displays were well attended, and more than one amateur was rewarded with a bargain to take home and enjoy. Once again it was thanks to the Salvation Army with its array of snacks, coffee, tea and drinks that Cafe de BARC was indeed well patronized by those attending. The venue provided a spacious environment that encouraged uncrowded browsing, allowing the visitors to mix and mingle leisurely as they searched for a bargain.

BARC wishes to extend their good wishes and thanks to all those who attended this year's BARCFEST from near and far. The Club looks forward to welcoming everyone once again next year for the 31st time.

Photo 1: Patrons enjoying BARCFEST.

Bunya Mountains & District AmCom Inc

May 4th saw the members of the Bunya Mountains & District AmCom travel off to Nanango for the day to hold their monthly meeting. What a great idea to get out and about in your local area and celebrate this great country of ours. It's also good for the economy of the local area as well. The venue for the meeting was the Energy Centre in Nanango, which apparently is well worth a visit just for what it has to offer. Some twenty members and visitors attended the meeting, and a hearty lunch followed at the Nanango RSL afterwards. This was followed by an overview demonstration of the Club's new website.

The club's new website address is *www.bunyaamcom.org.au* so pop by for a gander, and if you have any photos then contact *vk4bad@wia.org.au*

Photo 2: Bunya club members at their May meeting in Nanango.

Noel's Nutty Campers

Noel VK4NL is the creator of a growing and popular activity that intertwines amateur radio, caravans and good company for almost ten years now. When you combine all these activities with exotic country surroundings like Kirkleigh, then you have the recipe for what is known as a weekend with Noel's Nutty Campers. Most recently the gang travelled off to the pleasant surrounds of Lake Somerset with numbers in the order of 30, with the addition of visitors on the Saturday. Most of the campers joined in the Pot Luck dinner on Friday evening with lots of catching up and yarning by those attending. One of the highlights of the weekend was the Boot Sale which took place on Saturday afternoon. After another day of activities, Saturday night's BBQ meal was well attended and utilized as a fundraiser. This was deemed a great success with monies in the order of $200.00 raised for club activities. Sunday saw the weekend finished off with a hearty BBQ breakfast, before all attending drove off to the four points of the compass. Noel would like to thank all those that attended for the weekend.

News from the WIA AGM in the West

Queensland was represented at the WIA AGM by Ewan McLeod VK4ERM and his good wife Margaret, Alan Shannon VK4SN, Trent Sampson VK4TS and Kevin Johnson VK4UH.

The boys from the West did a splendid job of organizing the whole affair, topped off with a grand dinner at the clubhouse of the Northern Corridor Radio Group. A very special thank you goes to Onno VK6FLAB and Bob VK6POP who were the driving force behind the whole event.

A few of the highlights of the AGM for Alan was putting faces to call signs along with the lectures, awards and the fine food. In the awards department Denis Johnstone VK4AE received a Presidential Citation for his ten years of dedication to the John Moyle Contest as Contest Manager. Alan Shannon VK4SN also received a Presidential Citation for his grand work on the Remembrance Day Contest rules and its most recent success in 2012. Alan was also the inaugural winner of the WIA Contester of the Year Trophy. So congratulation Alan, you have done Queensland proud.

Central Queensland Amateur Radio Association

A splendid weekend was had by all with the start of the weekend being an overnight at Weasel Park to participate in the Harry Angel contest. We were not in it to win but to keep the airways active. We were thinking of you Harry. The crabs were still hot when the contest started and they cooled down nicely by the completion of the contest 106 minutes later. Members present on the night were the CQARA President Jack VK4JRC and his XYL Sandy, Ray VK4HOT, Graham VK4NFZ, Jeff VK4NJB and trainee Aden Murphy. It was a late night by the time the fire died down and the excitement abated.

Next morning we had made our way to the very scenic picnic area of Mount Morgan Dam where we set up our radios and waited while the rest arrived. We made several contacts before the BBQ plates were heated up for a much welcomed sausage sizzle lunch. The younger and more energetic of the twenty or so group took Jack's kayak for a paddle on the dam. The day was perfect weather wise and the company was just great as the laughter rang out all day.

Photo 3: Alan Shannon VK4SN, on the left, receiving his trophy from WIA President Phil Wait VK2ASD .

Photo 4: Jeff VK4NJB and Graham VK4NFZ operating in the Harry Angel Sprint.

VK6news

Keith Bainbridge VK6RK
vk6rk@wia.org.au

This month's notes are dominated by two events, the HARGfest and the WIA Conference, so first to HARGfest, the news supplied by Bill VK6WJ.

HARGfest was a great success with 130 amateurs attending and resulting in a big lift to the HARG bank balance. Thanks to everyone who worked so hard to make it a success including our President Martin VK6ZMS who coordinated the event. One of the highlights was the hot food tent organised and staffed by Ray VK6ZRW and Ray's wife Clare who both worked like demons cooking the popular HARGburgers. Marty VK6RC seemed to be on roller skates producing the sausages in buns and Allan VK6AN took the money. Miles VK6MAB and Graeme VK6LV handled the entry fees and the raffle tickets and Ron VK6HRB and his XYL Dot looked after the tea and coffee. My job was to organise the raffle and I can now announce the winners. The first prize, a Wouxun dual band mobile donated by Ian VK6LCT of Timberden Plant Hire was won by Carl VK6FQRP. The second prize, a Wouxun handheld donated by Heath VK6TWO of Spooktech was won by Graham McDonald who had just passed his Foundation licence and was awaiting his call sign, subsequently issued as VK6FGMC. This handheld is Graham's first radio so we feel privileged to have helped him get on air. The third prize, a 4:1 current balun donated by Mark VK6MOA of TET-Emtron was won by Bill VK6WJ. Well I did buy five tickets and I had my eyes closed when I pulled out the winning tickets and I haven't won anything for years! The door prize was an IRODA gas powered soldering iron donated by Altronics and this was won by Bob VK6ZGN. Thanks to all those suppliers for donating some very worthwhile prizes.

Photo 1: Ray VK6ZRW and Marty VK6RC on BBQ duties at HARGfest.

At our General Meeting on Saturday 29th June Mal VK6LC will be giving us a talk on baluns. On Saturday 13th July, thanks to John VK6JGF, we will be visiting the Radio Operations Centre at the Fremantle Water Police where maritime rescues are coordinated. Our Annual General Meeting will be held on Saturday 27th July. On 17th and 18th of August we will be participating in the International Lighthouse and Lightship Weekend from the North Mole in Fremantle and in September Heath VK6TWO will give us a talk on Satellite and ISS Communication. Please feel free to join us at any of those meetings. Visitors are always welcome. On behalf of HARG, until next time, cheers from Bill VK6WJ.

Next Onno VK6FLAB with an F-troop update.

F-troop celebrates 100 editions. Every Saturday morning at 0000 UTC (8 am WST) there is a net for new and returning hams. It's been running since 12 June, 2011 and has had over 160 different visitors. The net covers anything and everything you might want to know about amateur radio. Many Foundation licensees have used F-troop as their very first on-air contact and thanks to Ronald VK6XS and Tony VK3JED the net is also heard around the world. If you would like your local repeater to be linked in, then connect to IRLP node 9558, or connect via EchoLink Conference *VK3JED*.

Anthony VK6AXB provided the following report on behalf of the West Australian Repeater Group (WARG).

Firstly, WARG apologises for the errors in our last VK6news article published on page 41 of the May edition of *AR* – several of the frequencies listed were not correct. We especially apologise to the Bunbury Radio Club and the Northern Corridor Radio Group, whose repeaters were among those listed incorrectly! Better proof-reading will take place in future.

On Monday May 6th WARG held a successful AGM, and elected a new Committee for the year ahead. Anthony VK6AXB was re-elected as President, with Peter VK6PM as Vice President. Graeme VK6LV continues as Secretary and Monique VK6FMON as Membership Officer. John VK6JAH has become WARG's Treasurer and Ray VK6ZRW has taken on the Technical Officer role. Cliff VK6LZ, Heath VK6TWO and Mitch VK6FLEX are WARG's Committee members – Heath continuing as D-STAR coordinator and Mitch volunteering for digital officer. VK6HRB Ron and XYL Dot continue to run the WARG shop.

The meeting expressed thanks to past committee members Martin VK6ZMS and Peter VK6AIF, who needed to step down; our thanks go to Ray and Mitch for putting their hands up and joining WARG's committee for the first time. We are also grateful to our many volunteer site managers, including Mac VK6MM, Bob VK6POP, Jim VK6CA, Phil VK6SO, Craig VK6FLAM and to all who have contributed to WARG's work in the past year.

WARG members were keen participants in the WIA Conference weekend making sure our Fremantle area repeaters were performing OK and also helping with some conference tasks and social events. The conference overall made for a great weekend. Well done to the organisers and the VK6 amateur community for making it happen and thanks to all who crossed the Nullarbor to attend.

WARG gave a presentation during the conference as part of the Technical Symposium outlining the history and growth of our network and some of the challenges we face in maintaining and renewing it. We especially thank the interstate amateurs who came to our presentation and shared with us their experiences of building and maintaining repeater systems.

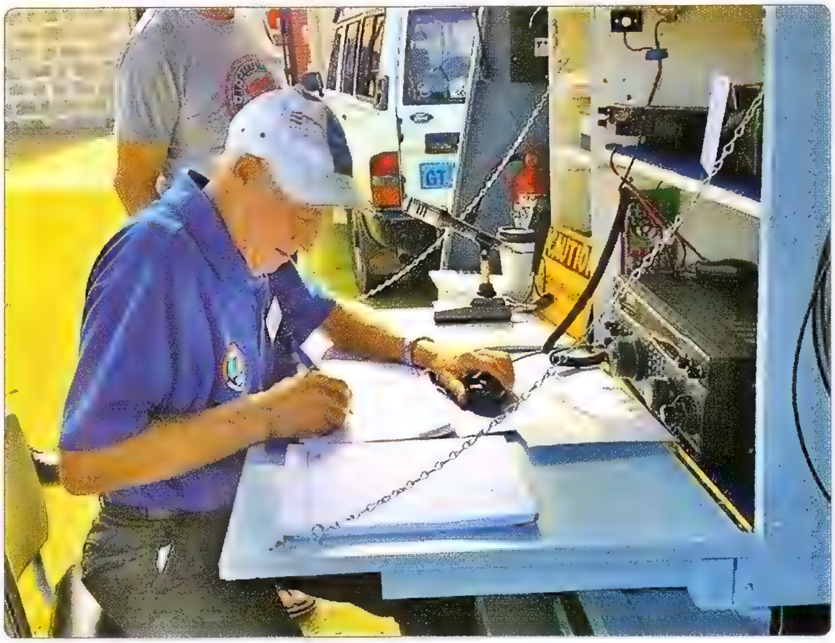

Photo 2: Lance VK6LR operating two metres from the PARG communications trailer outside the museum in Fremantle.

We still have plenty of work to do to stay in touch with WARG activities. All are welcome to join our on-air net, Sundays at 10.30 local on VK6RLM, 146.750 MHz. Everyone is also welcome at our meetings which take place on the first Monday of the month at Peter Hughes Scout Communications Centre, corner of Gibbs St and Welshpool Road, East Cannington. We also will have an information table and WARG shop at the NCRG Hamfest on Sunday August 4th. More information is at *www.warg.org.au*

Thanks Anthony, you have encouraged me to proof read better as well!

The Peel Amateur Radio Group (PARG) have been busy, here is their update:

On Sunday May 26th a small team of PARG members proudly ran a very effective portable amateur station in the heart of Fremantle, WA. PARG provided this portable station in support of the WIA Conference weekend. Normally the club callsign VK6ARG would be utilised for events including JMMFD and JOTA. This special weekend we were pleased to be operating special call VI103WIA on behalf of the WIA. The station operated out of the clubs purpose built 'mobile communications unit' which incorporates a 12 metre windup mast.

The QTH was outside the Shipwreck Galleries (Museum) on Marine Terrace, Fremantle. The museum happens to feature several large historic ship anchors in their outside display. Guying of our mast was made easier than normal by securing at least one guy rope to the sea anchors. Right from the station opening time of 1000 hours local we were kept busy with many VHF calls through the nearest repeater VK6RFM, and also on 146.500 MHz simplex.

On the HF side 20 metres was running hot between 1300 and 1600 hours local. Our primary HF operator Rex VK6SN was reluctant to hand over the HF bands in the middle of a pile up, but as agreed the NCRG group took over the special event call from there on. The portable station was very successful and enjoyed by many interstate and local amateurs throughout the day.

Weather on the day was superb and so many amateurs took the opportunity to spend some time outside, chatting and catching up with rarely seen interstate friends. The station was run by the following group members - Lance VK6LR, Paul VK6LL, Stephen ex VK2FDAK, Warren VK6HM, Michelle VK6MLW, Clive G4JXJ, Rex VK6SN and Onno VK6FLAB.

PARG members were proud to have to been given the opportunity to support WIA conference weekend. Paul Gardner VK6LL, Secretary, Peel Amateur Radio Group.

Next up is the WA VHF Group. A report by Terry VK6ZLT President WA VHF Group Inc.

The evening of Monday 27th May the WA VHF Group Inc held its monthly meeting which just happened to follow the WIA Conference weekend. It was noted that Saturday's AGM and Conference were successful.

Our club meeting ended on a bright note however, with an excellent 'show and tell' by Ray VK6ZRW of a LFA (Loop Fed Array) Yagi antenna. Ray described the simple construction and then was able to demonstrate its credentials on the spot 'live' in the courtyard in front of the meeting room by mounting it on a short pole and connected to a sophisticated antenna analyser. A successful evening's outcome. Thank you, Ray. Details will be included in the next 'VHF Group Bulletin' and the topic next meeting in July is 'VHF converters part 2'. 73. Terry VK6ZLT.

The NCRG hosted the 'Sundowner' at the end of the conference and it was a great success, more from Wayne VK6EH our Secretary.

Hi all from the NCRG. Last weekend saw the WIA Conference 'Sundowner' get together and dinner at NPSARC, our clubrooms in Whiteman Park. We were happy to welcome conference visitors and partners for the last official event of what has been reported as a huge success for those travelling to WA.

Our involvement started on Friday afternoon with the arrival and setup of the marquee and extra toilet facilities. This went without a hitch, guided by Gerald VK6XI. Sunday morning saw members turn up to make the final last minute adjustments to the setup which included lighting and was managed by Phil VK6IP and his many helpers.

Photo 3: Zeljko VK6VY operating VI103WIA at the NCRG.

Tables and chairs were set out in readiness for the guests to arrive along with the expected wind shelter from our old friend, the 'Fremantle Doctor'. As it happened the doctor did not make his rounds that night and we were treated to a beautiful 'still' although somewhat cold evening. The buses carrying our guests arrived at around 6.00 pm, driven by our old mate and member Darby VK6FONC and helper Geoff.

In the absence of our President Keith VK6RK who was called away to the UK for a sick father, Stuart VK6LSB stood in as Vice President and welcomed the visitors to the NCRG clubrooms and took on the role of host. Both Darby and member Ian VK6TWJ were busy the day before showing the partners and YL's around Perth in the bus and by all accounts a good time was had by all.

The WX was as one would expect from WA, cloudless skies, and warm, and I'm told Darby was the perfect host! Darby was busy all weekend taking care of business in the transport of guests to and from the various events associated with the conference. Good job Brian

Anyway, our guests made themselves comfortable in our 'lounge' while the OM's checked out the station, antennas and whatever.

Zeljko VK6VY invited visitors to sit at the radio and operate the station and later took calls from visitors via 40 metres 'short path', that is, in the car park to VI103WIA, to ensure they were 'logged' with the conference call. Actually Zeljko VK6VY put in a lot of DX work behind the scenes in operating VI103WIA from VK6ANC in the wee small hours. He added in excess of 1300 contacts to the conference log, mostly DX.

I had a brief look at the log and noted a contact rate of 1 x JA contact every 10 seconds at one stage of his stint…well done Zeljko.

The caterers arrived at around 6.30 pm and soon everybody had the 'nosebags' on, and there were

Photo 4: The Sundowner at NCRG.

plenty of laughs and merriment coming from the marquee. We had a small 'hiccup' in that the guests drank all the WA wine we had on hand and a hurried trip to the bottle shop to replenish supplies by Stuie (Vice President) and Anthony (Treasurer) restored sanity to the event!

All good things must come to an end and soon it was time to bid farewell to our many visitors. We trust you all enjoyed being here, and now you know where we are you should call in and see us any time, there is always a sausage sizzling away for you on a Sunday morning.

In closing I would like to thank Conference organizers Bob VK6POP and Onno VK6FLAB for the huge effort they put into piecing this conference together and thanks to all NCRG members who made it happen, great job guys. 73 from WA, Wayne VK6EH, Secretary NCRG.

A note from Bob VK6KW regarding the Travellers Net is next.

At the WIA conference Technical Symposium, Session 3, Stream 3, the topic 'HF Traveller's Nets' by Bob VK6KW attracted 17 attendees (and two apologies involved in other presentations) of which only five had ever logged into the net before. There were lots of questions, too many to answer fully in the 20 minutes allocated but the big one was 'Can people call in if they are not travelling?' and the answer is yes, yes, yes! Bob went on to explain the vital role of the home stations in every state taking part as relays to give our continent adequate coverage especially in times of poor propagation. Check-ins are always welcome. Further information including contact details may be found in the 2012 Callbook on page seven and on the web at *http://www.wia.org.au/members/nets/travellers/* Thanks to Bob VK3XP.

And some facts to spice it all up. A total of 424 calls have been logged on the 20 metre net since 20 May, 2010, some many times over, and some travellers for three months at a time! The busiest day saw 22 calls logged including relays, the quietest Net control and two relays, no calls on either band. So join in folks, even if you are not travelling.

A busy month for all. Unfortunately I spent most of my time between the UK and Perth, something I may be doing again soon, unfortunately, in the near future, the penalty of living on the opposite side of the world to most of your family. Thanks one and all for your contributions and see you next month!

73. Keith VK6RK

Over to you

23 cm

Dear Editor,

I have recently become interested in the 23 cm band and started looking for 23 cm equipment. I was surprised that few if any of the equipment manufacturers make 23 cm standalone FM radios any more.

There are some multi band handhelds, but even these are few in number. In the past all the major manufacturers of amateur equipment had a selection of FM transceivers.

Yes you can purchase expensive multi band base stations and add the optional 23 cm board but for many of us this is not an option.

Do the equipment manufacturers know something about the 23 cm band that we don't? Does the WIA know of any threat to our 23 cm band, apart from all our bands are under some possible threat?

Regards,

Will McGhie VK6UU

VK3 news Amateur Radio Victoria

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AGM was held

It was a cold autumn evening on Tuesday, May 14 when members of Amateur Radio Victoria gathered for the Annual General Meeting held at 40G Victory Boulevard, Ashburton.

They adopted the circulated annual reports from the President, Barry Robinson VK3PV and the Secretary/Treasurer Ross Pittard VK3CE. Both of these office-bearers presented their reports and answered questions from the floor. During the member forum segment questions were asked about the finances, activities, the QSL Bureau, and the possible new 5 MHz band.

Also reporting on their activities and providing information were Events Coordinator Terry Murphy VK3UP who spoke about VK3RAN activations and VK3WI at the International Lighthouse and Lightship Weekend, Award Manager Tony Hambling VK3VTH on the National Parks and Local Government Awards, and Repeater Coordinator Peter Mill VK3APO on the refurbishment of the Mt Stanley site, which was destroyed on Black Saturday.

It was a social gathering enjoyed by those attending and many caught up with friends they had not seen for a while, and also made new ones.

Bogong High Plains expedition

Planning is well under way for another trip to Victoria's icy wilderness by a team of cross-country skiers in their annual expedition, including brothers Stephen Warrillow VK3SN, Gerard VK3GT, and Michael VK3FMAW.

Mainly from huts, snow caves and igloos, the trio will use ultra-light amateur radio gear powered by solar panels and batteries fed into simple wire antennas, plus the repeaters using hand-held VHF/UHF transceivers. The team has refined its operations based on a decade of experience in the chilly environs and the need to keep all of the items effective yet small in size.

During August 5-9 listen for them calling CQ on 40 metres during late afternoons and on 80 metres well into the evening, while at other times they may be heard on the voice repeaters.

The National Parks to be active

This special weekend, beginning as an activity for Amateur Radio Victoria's Centenary Year in 2011, has proved to be so popular that it has been held annually since.

To be promoted again is the Keith Roget Memorial National Parks Award on the activity weekend of November 15-17. Full rules and guidelines are available under Awards on our website. The special weekend in November is expected to again result in a plethora of activations across the state. National Parks are right across Victoria and most can be reached easily by car. Join in the fun and be part of the weekend, by either going portable or working them from home.

Foundation licence training

The next opportunity to undergo the quality training and assessments available for the Foundation licence is the weekend of August 24-25.

These are held at the well-equipped Amateur Radio Victoria office 40G Victory Boulevard, Ashburton. The study and operational practice guide book to be read before the training is available at a mail order cost of $26.

Many of those active in amateur radio today began by attending the classes. For more details or to enrol contact the Education Team Leader, Barry Robinson VK3PV on 0428 516 001 or at *foundation@amateurradio.com.au*

Silent Key Kevin Keany VK5ZA

The South Coast Amateur Radio Club is saddened to announce the passing of Kevin Keany VK5ZA, who became Silent Key on 10 March, 2013. Kevin was a valuable member of the Club, where he encouraged and created excitement within prospective Foundation licence holders, advocating and encouraging new people to become licensed and involved in the amateur ranks.

Kevin will be sorely missed and our thoughts go out to his children and family members, after the loss of a dearly loved father, grandfather and great-grandfather. We have lost an interesting and valuable member of the amateur community, with our club having been enriched by his presence and would like to thank him for his contributions to the wider amateur community.

Contributed by Stef Daniels VK5HSX and Louis Coleshill VK5VFO on behalf of the South Coast Amateur Radio Club Inc.

AMSAT

David Giles VK5DG
e vk5dg@amsat.org

A sci-fi disaster movie in the making

Flashing lights in the sky. A world thrown into chaos. The structure of society collapses. Who will save us from – 'The Kessler Syndrome'?

Scene 1

A group of retired NASA scientists are on vacation in the Rocky Mountains. On a clear, moonless night they are watching the celestial panorama while sipping on fermented brews around the campfire. As they watch, two satellites streak across the night sky seemingly headed towards each other. 'I bet you a dollar they're gonna hit', says Jerry Hatrick. No one takes up the offer. Despite their inebriation they know the chances of a collision are astronomically small. But at the point of their crossing there is a bright flash and now there are several more lights in the sky. 'Wow, that was great. I wonder which ones hit?' A few minutes later another collision occurs with one of the pieces from the previous collision. Then another. Then another. 'Oh my!' exclaims Oliver Sudden. 'Kessler was right!' Cue the music and opening credits.

Behind the scenes

NASA scientist Donald Kessler proposed the scenario in 1978 that at some point there will be enough orbiting objects that collisions between them could cascade. One collision creates debris that causes more than one collision and so on, in a runaway effect like a nuclear explosion. The end result is a cloud of debris orbiting the Earth that will make any future space use difficult. The natural way for it to be cleared is by the debris being dragged down by the Earth's upper atmosphere and the solar wind. Depending on the object's mass and height this can take many years.

Currently there are about 20,000 objects bigger than five cm in orbit that are tracked by radar. Another estimated 300,000 pieces less than one cm are also in low Earth orbit. All are travelling at tens of thousands of kilometres per hour. But as Douglas Adams once wrote, 'Space is big. Really big. You just won't believe how vastly hugely mind-boggingly big it is'. A quick calculation on how much volume there is between 600 and 800 km above the Earth gives about 125 billion cubic km. So there is plenty of room between them for the time being. However there may be a time when the amount of debris will be increasing faster than the amount that is naturally de-orbited. That's when Kessler's prediction may come true.

Close encounters

Now let's get to the point of this article. In recent years there have been alerts issued to the AMSAT-BB from the US Joint Space Operations Centre when close encounters and possible collisions may occur with the amateur satellites. Recently there have been reports that the cubesats NEE-01Pegasus and CubeBug-1 collided with debris from the Russian Tsyklon-3 rocket stage on the 22nd of May. The Pegasus controllers reported the collision had resulted in the satellite spinning rapidly and they will be trying to regain control over the next three months. Thankfully they were able to get Pegasus operational before the collision and receive video from its high definition 'webcam'. You can view the movies at *http://www.earthcam.com/world/ecuador/ecsa/* The CubeBug-1 controllers reported a slight change in the satellite's orbital inclination but the satellite itself had survived. Colin Hurst VK5HI reported that CubeBug-1 was still transmitting after the event. I have also heard bursts at 30 second intervals so it was probably transmitting at 9600 baud. CubeBug-1 transmits telemetry using 1200 baud and 9600 baud packet on 437.4384 MHz. One interesting graph on CubeBug's website shows the gyroscopes doing their job [1]. All is stable until the event then returning to stability within a couple of days. Had they collided with the rocket stage itself then things would have been much different.

Deep impact

It is a problem that is starting to be taken seriously by government organisations as well as private aerospace companies (and their lawyers). There are at least three methods being looked at to clean up the heavens. First is to send up a spacecraft to capture debris and either de-orbit or move it out of harm's way. One mission is slated for launch in 2015 to deal with geosynchronous debris. This is practical as the Clarke belt is a finite resource and companies pay big money for its use. It would be impractical to do this in low Earth orbit as it takes a large amount of fuel to change direction in space. Second is to move the debris out of the way with a huge ground or space based laser beam. In the 90s the US Air Force were planning such an experiment on a shuttle flight with a 'Laser broom' called project Orion. Other novel ideas include sending up large amounts of aerogel or balloons to attract debris then de-orbit. Neither of these methods has been seen as cost effective. The third method, which has actually been tried, is to add to the satellites or rockets a method of changing their orbit after it has completed its mission. Deployable tethers, balloons, parachutes, and sails can be fitted to satellites [2]. Rockets keep some fuel in reserve for one last push into an unstable orbit. Geostationary satellites often use the last of their fuel to leave the Clarke belt at the end of their useful lives.

On a smaller scale, there have been a couple of recent cubesats designed with de-orbiting mechanisms. For example PW-Sat has a deployable one metre 'tail' to increase its drag and thereby de-orbit much sooner. Unfortunately there are problems with PW-Sat and it is unlikely the tail experiment will proceed.

In the near future Kessler's syndrome is not a threat and we won't be seeing the rapid demise of all the satellites in low Earth orbit. The collisions with NEE-01 Pegasus and CubeBug-1 are the first reported since 2009. Some scientists do believe that some low Earth orbit regions are starting to get overcrowded.

Final Pass

Frankly the images from NEE-01 Pegasus are stunning when you consider it is a 1U cubesat. A mere 10 years ago the first six cubesats were launched. Cute-1 (CO-55) with its fold out solar panel and XI-IV (CO-57) are still operating and their 100 mW CW beacons are easily heard.

References

[1] *http://1.cubebug.org/*

[2] *http://www.spacesafetymagazine.com/2013/05/24/de-orbit-cubesat/*

AMSAT-VK

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About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial amateur radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft. AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

AMSAT-VK monthly net

Australian National Satellite net

The net takes place on the 2nd Tuesday of each month at 8.30 pm eastern time, that is 0930 Z or 1030 Z depending on daylight saving. Check-in starts 10 minutes prior to the start time. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

In New South Wales
VK2RBM Blue Mountains repeater on 147.050 MHz

In Queensland
VK4RIL Laidley repeater on 147.700 MHz
VK4RRC Redcliffe 146.925 MHz IRLP node 6404, EchoLink node 44666

In South Australia
VK5TRM, Loxton on 147.175 MHz
VK5RSC, Mt Terrible on 439.825 MHz IRLP node 6278, EchoLink node 399996

In Tasmania
VK7RTV Gawler 6 metre repeater 53.775 MHz IRLP node 6124
VK7RTV Gawler 2 metre repeater 146.775 MHz IRLP node 6616

In the Northern Territory
VK8MA Katherine 146.700 MHz FM

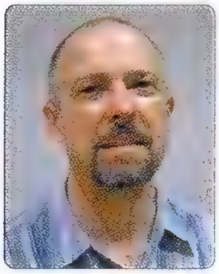
Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT or VK3JED conferences. Past experience has shown that the VK3JED server offers clearer audio. The net is also available via IRLP reflector number 9558. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email. Frequencies and nodes can change without much notice. Details are put on the AMSAT-VK group site.

Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night. Currently only SO-50 is available.

Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

Contribute **Articles and high quality photographs for *Amateur Radio* and *Callbook*.**
See *http://www.wia.org.au/members/armag/contributing/*



VK7news

Justin Giles-Clark VK7TW
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w *groups.yahoo.com/group/vk7regionalnews/*

Congratulations to Robin Harwood VK7RH on becoming a life member of the WIA. Robin has made a huge contribution to amateur radio through his monthly column 'Spotlight on SWLing' which he has been writing for over 37 years. Good on you Robin! The WIA AGM in Perth signals the end to another broadcast year. In VK7 the weekly National WIA News and VK7 Regional News broadcasts go out on 13 different frequencies. We have over 20 people on the roster to supply these broadcasts and rebroadcasts each week and a big thank you is extended to all who are involved. During the 2012/13 broadcast year there were a total of 5,177 callbacks in VK7. Nationally we saw a total of 126,515 callbacks in the 2012-13 broadcast year. The stand out callback numbers in VK7 were 1077 callbacks on VK7RAD/RHT, 932 on VK7RAA and 504 on 80 metres.

Repeater News

The replacement of the repeater on the east coast of VK7 at Snow Hill has proven to be a challenge that continues at the time of writing. A third attempt saw Joe VK7JG, Al VK7AN, Lewis VK7FLPL and Peter VK7PD finally reinstall this repeater on 28 May last. However, there is a desense problem which results in an inability to receive weak signals on 146.3 MHz that will be corrected in a future visit. Additional linking was also installed to VK7RAB and VK7RAF. Joe, Lewis and Peter also replaced the six metre repeater (53.875 MHz) on Mt Barrow VK7RAA during May which is reported to be operating well. Thanks to all involved in repeater maintenance around VK7.

Photo 1: NTARC BBQ in full swing with (LtoR) Idris VK7ZIR, Lewis VK7FLPL and YL Liz. Photo courtesy of VK7PD.

Cradle Coast Amateur Radio Club

Unfortunately, the recently elected CCARC President Rick VK7RI has some personal health problems and has had to step down as President. The other presidential candidate from the AGM, David Spicer VK7EX agreed to step into the President's position for the remainder of the term. The repeater at Lonah in North West VK7 now hosts the newest IRLP node in VK7 – 6407 – thanks to Rick VK7RI.

Flinders Island Amateur Radio Club

There are four permanent amateurs on Flinders Island, Peter VK7KPB, Garth VK7FLIS, Arthur VK7FI and Kerry VK7FKEK. This permanent group is also joined by Al VK7AN and Barry VK7BE during regular business trips. This group meets for meals and so began the Flinders Island Amateur Radio Club (FIARC). On Friday May 17, 2013 an extraordinary meeting of FIARC was hosted by Robin Walker and convened at the Interstate Hotel in Whitemark with visitors Al VK7AN, Joe VK7JG and Peter VK7PD. Kerry was elected President and Robin as an honorary member. Although FIARC only meets informally, it upholds the true spirit of amateur radio (often in liquid form!) and it does plan and promote some serious endeavours and provides stimulus for its members and supporters! Thanks to Peter VK7PD for the above information.

Northern Tasmania Amateur Radio Club

The new NTARC clubrooms are taking shape with the club station VK7TAZ being fired up with a dual band VHF/UHF antenna being donated by Brian VK7KWB and a G5RV being donated by Mal VK7FMAL and delivered by Wayne VK7XGW. The donations keep flowing in with an Icom IC-707 and

Alinco two metre rig being donated by John VK7JA. Thanks to Brian, Mal, Wayne and John.

The clubrooms are a hive of activity with Andre VK7ZAB, Bryan VK7KWB, Brendan VK7FESQ, Stuart VK7BBB and Idris VK7ZIR all contributing to building, fixing and helping get the clubrooms into a functional state. The May meeting was the first (of many!) social BBQs at the new clubrooms and a show and tell segment saw good attendance. Al VK7AN and Peter VK7PD provided a talk and presentation. Thanks to Peter VK7PL and XYL Lois who donated the barbecue unit which was put to good use! There has been an NTARC committee change with Kevin VK7HN standing down as Treasurer and Norm VK7KTN filling the position for the remainder of the term.

Radio and Electronics Association of Southern Tasmania

We welcome Vaughn VK7FADA, Mary VK7FDRU, Susan VK7FAAS and Chris VK7FAAR who all passed their Foundation licence assessments and now have their callsigns. Welcome to the bands. REAST's May presentation was provided by Glen Polmear who heads up the Radio Network Development section within Telstra. Glen is currently involved Australia-wide with the roll-out of LTE/4G. Glen took us through the history, technology, protocols and techniques used within this highly complex system. A big thank you is extended to Glen and Telstra for this presentation.

Our Wednesday night DATV Experimenters presentations are jam packed with show and tell and interesting videos which included a demo of the IPS ionosondes application, Rex VK7MO's new 24 GHz AZ-EL dish mount, see Photo 3, DATV-Express project, Earth dipole antennas, Warren VK7FEET and Tom VK7TL with oxygen sensors, the Dave VK3HZ and Graham VK3XDK X-Ref GPSDO boards for Yaesu rigs and VK5JST Aerial Analyser modifications for 630 and 2200 metres. Thanks to all who contribute to these nights and making them a huge success. Our video presentations were... out of this world, well on the International Space Station anyway! You can pick up on RF around Hobart – 446.5MHz DVB-T or *www.batc.tv* membership stream VK7OTC on the internet from 19.30.

Photo 2: The new NTARC Rocherlea clubrooms with VK7RH in foreground. Photo courtesy of VK7PD.

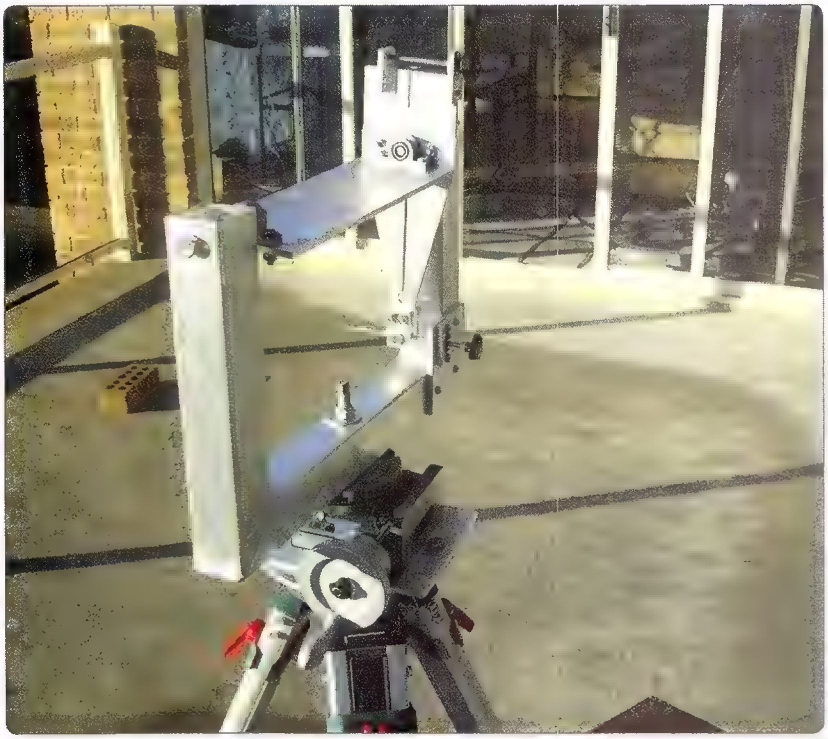


Photo 3: The VK7MO AZ-EL mount for 24 GHz portable operation. Photo courtesy of VK7MO.

VHF/UHF - An Expanding World

David Smith VK3HZ
e *vk3hz@wia.org.au*

Weak Signal

The main activity this month has involved the Eta Aquarids meteor shower. This year, the shower was quite intense with fairly regular, long burns of up to a minute duration. This allowed SSB contacts, sometimes between stations in a number of states - VKs 1, 2, 3, 4 and 5. Adrian VK4OX, Arie VK3AMZ and Peter VK5PJ were regular participants. The shower was also longer than usual, lasting almost a week from the morning of the 4th of May until the 10th of May, peaking around the 6th. Look out for this shower again, this time next year.

ISS Bounce

While many of us have experienced Aircraft Enhanced signals on the VHF, UHF and microwave bands, amateurs have also been experimenting with reflecting signals from the International Space Station (ISS).

On May 23rd, after many attempts, Andreas DJ5AR and Jan PA3FXB succeeded in making contact on 23 cm via reflections from the ISS. Both stations used three metre dishes tracking the ISS with Andreas running 100 W and Jan with 375 W. The contact was made in CW with a Doppler correction program used to correct the large (40 kHz) and rapidly changing frequency shift.

There have been earlier attempts at a QSO by reflection off the ISS. SM2CEW reports nearly succeeding on 144 MHz with SM7WSJ in 2007 and also with SV3AAF. DF2ZC claims the first ever QSO via ISS scatter on two metres with DH7FB on December 9, 2007. VA7MM reports on tests on ISS bounce with VE7BBG on 23 cm in 2004. PE1ITR tried with DK3WN in 2007.

More details can be found on Andreas' web site at *www.dj5ar.de*

They used a program called AirScout to assist with their planning. This looks like a very interesting tool for those interested in Aircraft Enhancement. Scroll to the end of Andreas' web page to find more details. It is also worth looking at the VK Logger forum in the Aircraft Enhancement area for more details on installation of the program.

77.5 GHz EME video

Recently it was reported that Sergei RW3BP had received his own echoes back from the moon on 77 GHz. Sergei has produced a video of his EME system and placed it online, at *www.youtube.com/watch?v=2En_W2EaJFw*

The video is well worth watching, not least for the sound of the 31 kV power supply ramping up to operation, and to see his unusual method for disposing of the coolant for the TWT.

Please send any Weak Signal reports to David VK3HZ at *vk3hz@wia.org.au*

Digital DX Modes

Rex Moncur VK7MO

Meteor scatter report May 2013 by Kevin Johnston VK4UH

May is the 'Jewel in the Crown' of the meteor scatter calendar each year. This coincided with the peak of the Eta Aquarid meteor shower over the weekend of the 4-5th May. Arguably the best meteor shower of the year, the return of the Aquarids is associated with frequent loud and long signal returns or 'burns' occurring over many days, supporting contacts right up to 70 cm.

Meteor showers occur at regular and highly predictable times each year as the orbit of the earth around the sun takes it through clouds of debris left behind after the passage of earlier comets. For centuries, visual meteor showers have been named after the constellation of stars where the meteors appear to be emanating in the sky. The source of the meteors is not the constellation of the stars itself, which may be millions of light years away, but rather by the location of the comet path in the earth's orbit around the sun, that is, the date, for the same reason our birthdays always fall under the same sign of the Zodiac each year.

Meteor showers are not rare events, there being at least 11 per year. The Eta Aquarids coincide with the ascension of the constellation of Aquarius the 'Water Bearer' in the sky, with Eta Aquarii being the name of its brightest star. In this case the debris producing the meteors comes from the remnants of Halley's Comet.

Regrettably my calendar took me to a conference in Melbourne over the entire period where I was only able to scan the logger on my I-phone to observe the MS activity occurring without me. The logger was full of reports of two metre MS contacts in and out of the normal activity sessions and on both sides

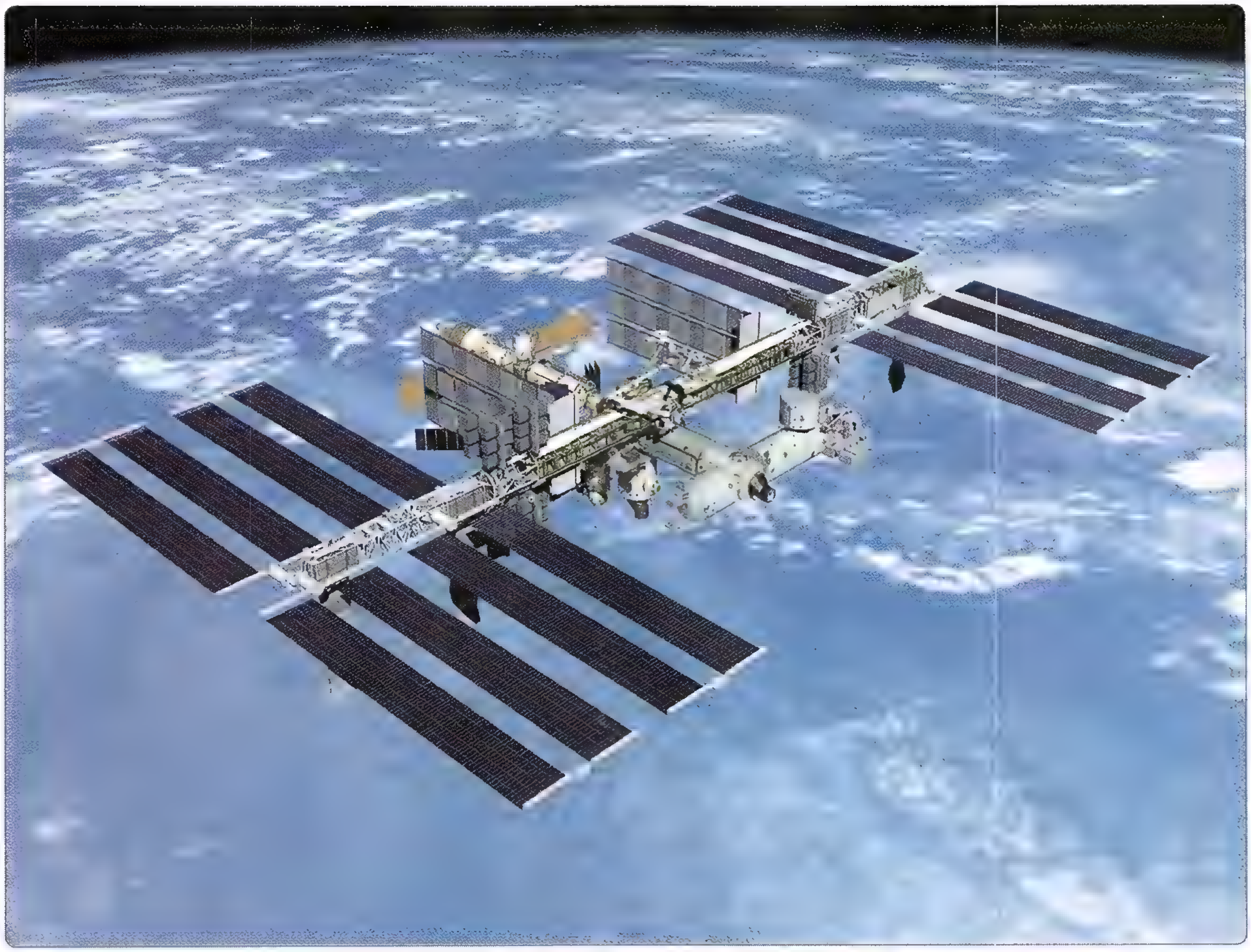


Photo 1: The International Space Station. Image: NASA.

of the Tasman. Many long burns were sufficient to support SSB MS contacts as reported by VK3AMZ to VK4OX on May 4-5. There were also reports of 432 MHz FSK441 signals being successfully decoded, where signal returns are always much weaker and shorter in duration.

Conditions for meteor scatter over the weekends of 11-12 and 18-19 May, after the end of the Aquarid shower, returned to baseline typical for this time of year. Most stations reported low ping rates and very weak and short returns. This gave the opportunity to trial the new mode JTMS and compare it to FSK441 under these difficult conditions. A number of stations including VK3AMZ, VK4MIL, VK4LHD, VK2XN, VK2DVZ, VK2AMS, VK4NWH and VK4UH participated in on-air tests of JTMS on 144.330, avoiding conflict with FSK441 operators on 144.230 as the two modes are not compatible.

JTMS (Joe Taylor Meteor Scatter) is one of two hidden experimental modes within the latest versions of WSJT 9.3. Activation of these modes requires the creation of an empty file called 'experimental' within the main WSJT program folder. Instructions on how to do this are to be found on the web and logger forums. The caveat is that the added file must not have a .txt extension. Once activated the two new modes JTMS and Diana appear as options in the pull-down mode options in the WSJT user screen and operation is essentially the same as in FSK441 although the setting of the sensitivity 'S' parameter becomes far more critical.

JTMS appears to have the ability to decode very short meteor returns of less than 100 ms where FSK441 has great difficulty. It also runs an effective averaging function across multiple pings. First impressions on-air suggest that there is 'good potential' for this new mode particularly under poor conditions where meteor pings are both weak and of short duration.

New version of WSJT version 9.5 r3281

This version is now available on Joe, K1JT's web site at *http://www.physics.princeton.edu/pulsar/K1JT/wsjt.html*

The main improvement is to the JT4 mode which now includes a Deep Search facility and works to around -26 dB on signals that are not spread and yet copes with spreading up to 150 Hz in the JT4F sub-mode and still achieves a sensitivity of around -20 dB. This improved version of JT4 was used for recent 24 GHz EME world records by VK3XPD and VK7MO and should also be very useful for 10 and 24 GHz rain scatter.

Another feature is that it is possible to use this version as a test signal generator for all modes. This is done by typing a line in the TX 6 box such as:

#-14.01

After this is done the program will generate test signals in other message boxes, which in the above case are at -14 dB S/N with spreading of 10 Hz. The numbers after the decimal point represent the spreading when multiplied by 1000, so for example 0.5 indicates 500 Hz spreading. The test signal can be transmitted at audio to a second computer and one can look at the effects of both S/N and spreading on the decoding on different modes.

Please send any Digital DX modes reports to Rex VK7MO at *rmoncur@bigpond.net.au*

The Magic Band – 6 m DX

John McRae VK5PO

Hi fellow six metre enthusiasts.

This report comes to you as I am holidaying in the US and Canada. I have my IC7000 with me, and will be looking around for VK stations. Operating from Courtenay BC, signing VE7/VK5PO.

The place to be is Darwin, as these fantastic logs will show. Great contacts fellows! This station log from Gary VK8AW reads like a 20 metre band log! It is complimented by fellow Darwin station VK8MS' log below. My count for DXCC entities equates to 17 worked. That is fabulous DX Gary. Some operators on six metres may take years to get 17 DXCC on this MAGIC band!

Gary, VK8AW writes:

Fantastic month of DX on six metres from up here in Darwin.

My set up is: 6M9KHW antenna at 14 m, fed with LDF5-50 hard-line from my IC-7700. I am also using a TE amplifier for 400 watts out and a 13db pre-amp.

On the 1st of May, between 0700Z and 1205Z I worked these stations.

On CW, KH7Y and JA6TEW and later I scored A92IO in Bahrain on SSB!

The 20th of May was a great night of DXing on six metres.

Between 0745Z and 1205Z on the 2nd Fred KH7Y was romping in on CW.

VU2RBI, A92IO and YB0AKM then worked. Again on the 3rd I worked Dave A92IO in Bahrain on SSB.

On the 20th of May, the magic of six came to fruition when at 1002Z SV1DH was worked on CW.

For the next one and a half hours these stations were worked on CW.

HA0DU, EA3GP, SV2DCD, DK2JP, 5B4AGN, VU2RBI, 4Z1UF, IC8TEM, IZ8EDJ, IZ0CGV, SV1JGX, IS0GQX ,4Z1TL then finally two more Greek stations SV8RX and SV8CS before the EU propagation faded away. I finished the night of fabulous DX by working KG6JDX on Guam.

The Magic returned on the night of the 24th, when it opened into Spain right at 10Z. EA6SA, EA6BB and EA5BY worked on CW, and Li BA4SI called me. HA8CE, ER1SS, HA8FK and OE5KE were then worked. At 1120Z the band quietened down to an all too familiar white noise.

On the 29th at 1219Z, EX8MLE was worked also.

The smorgasbord of top end DX continues, with VK8MS logs below!

Mark VK8MS writes:

May 2013 has seen a continuation of TEP associated propagation with the equinox from March/April; I will not even try to analyse the modes of propagation we have experienced as there seems to be a different mode of conditions reported from many more experienced six enthusiasts than myself.

We have seen continuous almost nightly openings to most of the Asian region and regular conditions to the Middle East with contacts to Dave A92IO and A47RB with a few rare openings to Europe between the 19th and the 24th. Following is an extract of some of the DX heard and worked here in PH57 Darwin.

1 May, 2013: 0949Z KH9/WA2YUN/B, 1156Z YB0MWM 59 calling CQ, 1206Z A92IO.

2 May, 2013: 0927Z KH9/WA2YUN/B, 0939Z VU2RBI, 0945Z A92IO, 1050Z A47RB/B.

3 May, 2013: 1035Z Many JA stations with 59+signals,having local JA QSO's, 1047Z A92IO calling CQ.

4 May, 2013: 0933Z KH9/WA2YUN/B, 1011Z many JA's calling CQ with many 59+ signals!

1125Z AH2G/B, 1127Z KG6JDX, 1214Z YB0AKM calling CQ, 1229Z BG6CJR, 1232Z BV1EL,

1246Z A47RB/B.

5 May, 2013: 1228Z DU7/PA0HIP calling CQ, 1250Z YB0AKM calling CQ, 1250Z 9M2/JG3TTO 9 May, 2013: 1039Z VU2RBI on CW at 599, 1054Z KG6JDX also worked again.

19 May, 2013: 1050z SV1DH being heard here by VK8AW, I could only hear snippets of SV1DH call then I heard a HA station calling, then it all disappeared. 1204Z HL2CFY.

20 May, 2013: Between 0948 and 1136Z VU2RBI, IZ8DWF, SV1DH, EA5GP, SV2DCD, 4Z1UF, IZ8EDJ and IV8CH worked on CW. Most signals were at 559

22 May, 2013: 1014Z LZ2WO on CW 559, and many other weak EU stations! Low level signals with pile ups. This made it very difficult to work a lot more stations. 1228Z A92IO calling CQ.

23 May, 2013: 0950Z A92IO, 1234Z 9W6RT calling CQ.

24 May, 2013: Three new DXCC worked! Moldova, Corsica and Hungary in the log with the band opening between 1027Z and 1119Z. ER1SS was 57 on SSB, and these others all CW contacts with signals averaging 519, HA8CE, TK5JN, TK5JJ, S50A, S58N, IK5TPP, OE5KE, DF8LC and the last station I managed to work, at 1119Z, HA8CIK. Hearing many EU stations during opening on top of each other and very difficult to receive callsigns; I heard some of the following but unable to make two way contact - EA6SA, F8ZW, OM7PY(a new one for me!),US0ZZ and many Italy and others, as the band faded down with EU signals disappearing into 'that' white noise.

25/27 May, 2013: From around 0900Z to 1330Z most evenings hearing same video indicators and beacons from Middle East and Asian region.

29 May, 2013: Surprised by a 59 SSB signal from EX8MLE, that was at 1206Z, CW contact made a little later at 1227Z, Serge was 559.

I have not logged all the JA and BY Stations heard as there were too many to keep track of as this is a regular path from VK8 to the Asian region.

Overall 20th and 24th of May were the two best days into EU as indicated above, and as previously mentioned, it proved very difficult to receive many stations due to weak signals, and pile ups of stations. You may think it unusual so late in May for EU openings? Darwin stations have seen this before, like in cycle 23, between 29th May and the 1st June in 2002, when many EU stations were worked. Similar regions worked back then again at the end of last cycle when we had EU openings this late identical day and time 20/5/2003 to Italy, Malta and Spain then last opening of Cycle 23 was into USA November, 2003 so it's been a long time between openings to EU from here; hopefully this is not it for the current sunspot cycle.

Several VK3 stations worked into JA on the 20th of May with some TEP. VK3XDX worked the first JA station at 0655Z. The ubiquitous JR2HCB was worked many times by most of the VK3 stations on at the time. Hiyo San must be in every VK stations log by now!

VK4WTN worked VK7DX on SSB 21st at 0602Z for about half an hour when the propagation surprised them both with 59 signals prevalent

Frank, VK7DX had some fun working the south island of ZL, snaring half a dozen stations with excellent signals on the 29th May. Contacts were made between 0629Z and 0734Z.

Please submit reports, logs or other info you may consider useful to John VK5PO at *vk5po@wia.org.au*

VK6ANC

Northern Corridor Radio Group
2013 Hamfest
Sunday 4th August 2013

VK6NC

The Northern Corridor Radio Group Inc is holding the **27th** annual 'Hamfest' on **Sunday 4th August 2013.** Come along, enjoy the show and buy something new or even sell whatever amateur radio equipment you may have as surplus. Or just browse the tables, maybe catch up with old friends and make new ones.

Last year there were over 40 tables taken so please let us know if you would like one allocated. There is no charge for the table, just an entrance fee of only $5 for every person – NCRG members included.

The location of Hamfest is the Cyril Jackson Community Hall in Fisher St, Ashfield, Bassendean, 8 km from the City Centre, in a large air conditioned hall with ample space for several hundred people and supplier stands. Good food in our eatery, coffee, tea and soft drinks.

Hamfest starts at 9:00 am and the finish is around 12:00 pm.
Suppliers can set up from 7:30am.
To book a table you can:
- visit our web page for additional information www.ncrg.org.au
- email us at hamfest@ncrg.info
- contact Keith Bainbridge VK6RK on 0488 228 088 or vk6rk@wia.org.au

Great raffle prizes once again !!

Affiliated to the WIA

Po Box 244
North
Beach
WA 6920

Spotlight on **SWLing**

Robin Harwood VK7RH
vk7rh@wia.org.au

It looks as if we have reached the peak of the current sunspot cycle at last and it has not reached the peaks experienced in past cycles. I have noticed that there seems to be only a smattering of amateur activity on 15 metres, compared to the frenetic activity that was present 20 years ago. Even the nearby broadcasting allocation of 13 meters has fewer stations, yet this is largely due to financial cutbacks resulting from political decisions rather than solar conditions.

Sometime back I was Intruder Watch co-ordinator for Tasmania and in those times we had intruders from 27 MHz, a phenomenon which has dissipated. These days reports are still coming in of intruders on 28 MHz but these now seem to be commercial two-way services, primarily using narrow band FM and AM. Very few are on SSB. In fact these services seem to stretch from 24 to 32 MHz and are mainly taxis or transport related activities. European monitors have narrowed the locations to within the Russian Federation and CIS nations, formerly the USSR. This also may be the reason why so few hams in the former USSR have been heard on 28 MHz.

Here in the southern hemisphere we have observed some commercial activity on 28 MHz but not to the same extent as the Europeans have been noting. Traffic observed has mostly emanated from Indochina and Thailand and in AM and SSB. Some are involved in logging and transport companies. There are DXers who exclusively focus on these illegal stations as the operators usually are on low power and naturally do not QSL.

Radio Australia, the external voice of the ABC, has been broadcasting since 10 December, 1939 via shortwave. They were based in Melbourne but in early June there were sweeping changes to RA management, resulting in RA being merged with Australian Television in Sydney. Also I have had whispers that the days of Radio Australia broadcasting on shortwave to Asia may be numbered. Broadcasts to the south pacific on shortwave will continue because there are some island nations that are not permitting local rebroadcasting of RA programming, Fiji being one.

It is so sad to see the decline of Radio Australia but they are following the increasing trend of major broadcasters to exit from HF, concentrating on internet podcasts and mobile phone APPS. I was fortunate in that I was able to inspect Radio Australia when they had purpose built studios in Burwood. The Burwood experiment didn't last and they eventually moved to re-join the wider ABC family at Southbank. Now I am informed that a new radio complex is to be constructed close by but RA will now come from Sydney. Will Australian Television (including RA) eventually merge with SBS? Who knows, after all things could change after September 14th!

Just a few days ago, I was startled to receive an email from Jim Linton, congratulating me on being awarded WIA Life Membership. This was followed up by local members also congratulating me. It was a total surprise and they even said it was on the VK1WIA broadcast from Fremantle. I did not hear it as I was at church! A few days later I received confirmation from Phil VK2ASD the WIA President, stating that the recommendation came from the Northern Tasmania Amateur Radio Club. I am very honoured and wish to express my gratitude to them and also to the WIA Conference for the Award. I am still in shock! Congratulations also to Peter VK3PF, for receiving the Higginbotham Award for 2013!

Well that is all for this month. Don't give up on shortwave, it is still alive and active!

Participate

Waverley Amateur Radio Society Radio & Electronic Auction	6 July
GippsTech 2013 – Annual Technical Conference	13-14 July
Gippsland Gate Radio & Electronics Club Hamfest	20 July
Albury Wodonga Amateur Radio Club Inc Hamfest	28 July

DX-News & Views

Chris Chapman VK3QB and Luke Steele VK3HJ
vk3qb@wia.org.au

May and June on the bands

Propagation conditions in May proved to be quite interesting. The first half of the month saw good conditions, with solar flux and sunspot numbers well above 100, and quiet geomagnetic indices. On Norfolk Island, we enjoyed excellent high band activity. A series of X-class solar flares occurred mid-May, and geomagnetic storming occurred over the following few weeks. On 16th May, the daily sunspot number was 212, and the last time it was near that level was in November 2011 when it was 208. It hasn't been higher since the downward side of the last solar cycle, in November 2003, when it reached 277. Band conditions were mixed in the second half of May. There was some higher band propagation, but 10 metres was poor for the CQ WPX contest on 25/26 May. June started with a geomagnetic storm, and falling solar indices.

There were some DX highlights to make it worthwhile turning on the rig, as always. We hope you enjoyed the activation of VK9NT as much as we did. Alex HC2AO was active from both Ecuador, and Galapagos Island as HD8A. Saba Island and Bermuda were on air, as well as Angola and Niger. Also active in the African region was David ZS8Z on Marion Island. Closer to home, the Austral Islands was on air in May, as well as a couple of IOTA activations in Indonesia, and the H44IOTA Solomon Islands IOTA DXpedition commenced. Simon XZ1K has been active from southern Burma on 20 metres PSK31 on weekends, where he works as a volunteer school teacher. The First Class CW Operator's Club celebrated its 75th anniversary, with members from many countries active using special 'FOC' callsigns during May.

Some upcoming DX operations

The following table summarises some of the DX activations that may be of interest to VK operators.

Date	Call	QSL via	Information
1 – 6 Jul	OJ0V	ON8VP	Market Reef, (EU-053). HF, CW, SSB.
1 – 7 Jul	H40IOTA	NR6M	Temotu, Nendo I (OC-100). 80 – 10 m, CW, SSB.
1 – 16 Jul	6V7S	RK4FF	Senegal. HF.
2 – 7 Jul	9G5AA	PB2T	Ghana. HF, all modes.
5 – 9 Jul	PJ7	AF6WU	Sint Maarten (NA-105). HF, all modes.
6 – 16 Jul	FP/KV1J	LoTW	St Pierre & Miquelon (NA-032). 160 – 6 m, all modes.
6 – 25 Jul	HH5/KC0W	KC0W direct	Haiti (NA-096). 160 – 6 m, CW.
7 – 13 Jul	FO/UT6UD	UT6UD	Marquesas, Hiva Oa I (OC-027). 30 – 10 m, CW, SSB, RTTY.
9 – 12 Jul	H40IOTA	NR6M	Temotu, Vanikolo/Utupua I (OC-163). 80 – 10 m, SSB, CW.
9 Jul – 10 Aug	V47JA	LoTW	St Kitts & Nevis (NA-104). 160 – 6 m, SSB, digital.
10 – 14 Jul	FS	AF6WU	Saint Martin (NA-105). HF, multi modes.
14 – 16 Jul	H40IOTA	NR6M	Temotu, Pigeon I (OC-065). 80 – 10 m, SSB, CW.
14 – 22 Jul	FO/UT6UD	UT6UD	Austral I, Rurutu I (OC-050). 30 – 10 m, CW, SSB, RTTY.
20 Jul – 1 Aug	OX3LX	OZ1PIF	Greenland, Tasillaq I (NA-151). HF, 6 m.

Thanks to the NG3K website, and the QRZ DX and Daily DX newsletters for their information.

DXers can look forward to the following activations in July.

OJ0V, **Market Reef**. Operators ON5JT, ON6QO, ON4CCP, ON4LEM, and ON8VP will be on HF using CW and SSB. QSL via ON8VP. Market Reef lies between Aland Island and Sweden at the entrance to the Gulf of Bothnia. It is marked by a lighthouse, to warn shipping.

H40IOTA, **Solomon Is** IOTA DXpedition. Operators Ralph H44RK, Dominik SQ9KWW, Tom WL7HP and Maggie H44MK will activate three IOTA groups within the Temotu Province. In a joint venture with Oceans Watch NZ, they will establish the first ever VHF marine Safety System to be installed in the Temotu Province, the most remote eastern part of the Solomon Islands. Read more information about the H44IOTA DXpedition at *www.h44iota.com*

6V7S, **Senegal**. Vlad RK4FF will be operating again from Senegal. QSL directly to RK4FF.

9G5AA, **Ghana**. Hans PB2T will be on air from Ghana, HF, all modes, as time permits. QSL via PB2T.

PJ7, **Sint Maarten** and FS, **Saint Martin**. Kjerstin AF6KJ and Travis AF6WU will be operating from firstly the Dutch, then the French parts of this Caribbean island. They will be active on HF using multiple modes according to the propagation. QSL both callsigns via AF6WU direct or bureau. They will also use LoTW, eQSL and ClubLog.

FP/KV1J, **Saint Pierre and Miquelon**. Eric KV1J plans to be active in the IARU HF Contest 13/14 July, but will also be on air from 6 July, on 160 – 6 m, primarily SSB and RTTY. QSL direct or bureau via KV1J. For more information see *http://www.kv1j.com/fp/July13.html*

HH5/KC0W, **Haiti**. Tom KC0W will be operating from the northern tip of Haiti, 160 – 6 m, CW only. QSL via KC0W direct only.

FO/UT6UD, **Marquesas and Austral Islands**. Vadym UT6UD will be on Hiva Oa (OC-027) in the Marquesas from 7 – 13 July, then on Rurutu (OC-050) in the Australs from 14 – 22 July. Look for him on 30 – 10 m, CW, SSB and RTTY. QSL via UT6UD direct or bureau.

V47JA, **St Kitts & Nevis**. John W5JON will be visiting his Calypso Bay, St Kitts station for a month, and will be active on 160 – 6 m, SSB and digital modes. QSL LoTW or W5JON direct.

OX3LX, **Greenland**. Bo OZ1DJJ will be on air from Tasillaq I (NA-151) using HF and 6 m. QSL via OZ1PIF. For more information see *http://geronne.dk/index.php/ox3lx/ox3lx-dxped*

ZS8, **Marion Is**. Until April 2014. Carson ZS8C and David as ZS8Z will be operating on 40 – 10 m, SSB and digital modes. They will be working on the island until April 2014. Two others on the over-wintering team plan to sit the radio amateur's exam on the island, so hopefully there will be four radio amateurs active on Marion I over the next year. See QRZ.com for QSL information.

The RSGB Islands on the Air Contest is on 27/28 July. For information see *http://www.ng3k.com/Misc/iota2013.html*

Online QSL request service

OQRS (or Online QSL Request Service) is becoming more popular – and for good reasons. Most simply put, a DXer wanting to receive a traditional QSL card confirmation submits an electronic request to the QSL Manager (there are a number of ways to do this) which includes the QSO details as well as an online payment to cover the QSL costs, usually US$2 – and usually via PayPal. There are many benefits of this system:

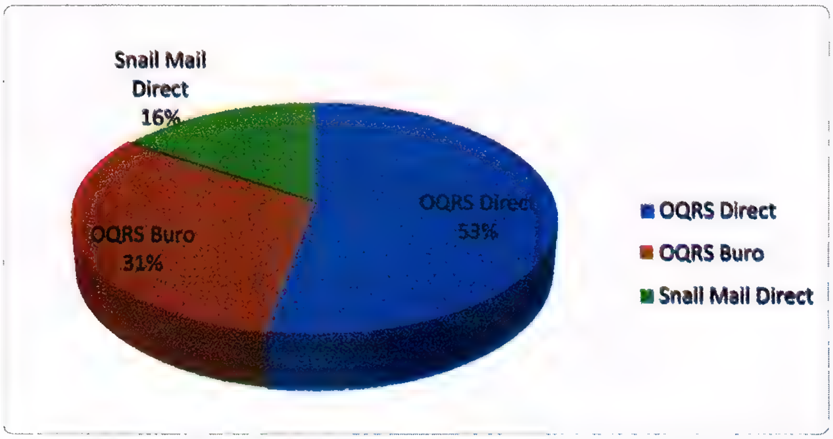
1. The DXer does not need to send their QSL card to the QSL Manager – saving time and money for the DXer. Traditional QSL requests cost a VK DXer about $4-5 by the time a QSL card is printed, put in an envelope and posted to some far flung country, along with US$2 and another SAE.
2. The DXer will get his QSL confirmation far more quickly.
3. The QSL Manager does not need to deal with a mountain of incoming QSL cards – of which the DXpedition (and QSL Manager) usually has no interest.
4. The QSL Bureau system will be under far less load from incoming cards.
5. It's easy for the DXer to add in a couple of dollars donation with his payment for the QSL –the $2 he would have spent sending the QSL request can now instead be used as a donation to the DXpedition.
6. The DXer can still opt to receive his/her confirmation via the bureau and avoid the cost of sending a card.

By way of example, the VK9NT DXpedition to Norfolk Island finished up on 13th May. The DXpedition made 24,630 QSOs of which approximately 38% were uniques – in other words VK9NT made contact with 9,174 unique amateur radio operators with many of these operators making multiple QSOs with VK9NT.

As at 3 June, about three weeks later, the QSL Manager has received 4,578 QSL requests. Figure 1 presents a breakdown of how these QSL requests have been received thus far – with the lion's share, 84%, being via OQRS. That's 3,863 incoming cards that the WIA Inwards Bureau and traditional mail system will not have to deal with.

An added benefit with OQRS and PayPal is that it is easy for the DXer to 'throw in a couple of extra bucks' when paying their $2 for the QSL – money they would have spent sending a card in the first place. OQRS donations have proven to be considerably more than traditional mail donations alone.

Figure 1: QSL request channels.



The downside with using Paypal for accepting donations and payment for QSLing are the fees, amounting to approximately 12% across the board. This reduces the income for the QSL Manager who, in some cases, will only be receiving 88c in the dollar. Some DXers are kind enough to pay the fee at their end.

At present there are three main avenues for DXers to use the OQRS – the approach will be determined by the QSL Manager for the DXpedition.

1. Via ClubLog. This is most efficient for all concerned and includes integrated payment with PayPal. Most QSL Managers will prefer this method as it greatly reduces the workload.
2. Via a special web site created by the DXpedition. A variation on the ClubLog approach – may or may not include integrated payment with PayPal.
3. Via email. The DXer completes a form (for example, a Word document) and submits via email, paying separately via PayPal. A clunky solution, especially for the QSL Manager as there is still a lot of manual work that needs to take place.

As you can see, OQRS brings many benefits to the DXer, the DXpedition, QSL bureaus and the QSL Manager.

Also, it is worth mentioning another modernisation of the process of confirming one's QSO.

Electronic QSL services

There are two main electronic QSL services.

The first is The Electronic QSL Card Centre, now known as eQSL. This service has been around for fifteen years now. Users simply upload their electronic log files to the online database, and the log data is matched with other users to create a QSL record. eQSL allows users to design an electronic QSL card graphic that can be printed out or filed electronically. There are more than 150,000 eQSL members.

The other electronic QSL service is the ARRL's Logbook of the World (LoTW). This service is nearly ten years old. As with eQSL, users upload their electronic log files, and data is matched, however, there is no opportunity to create or view a QSL card. LoTW now has more than 57,000 members.

Both systems require users to verify their identity by submitting evidence of their valid amateur licence. eQSL has its own awards program, and LoTW was created to support the ARRL's awards program. Both systems are free to use, but charge fees when awards are applied for. Interestingly, experience shows many more LoTW than eQSL confirmations, for the same log.

The WIA awards program has accepted eQSL 'Authenticity Guaranteed' confirmations since 2011 and as of this year, also accepts LoTW confirmations, and of course, traditional cards.

Electronic QSL systems offer the convenience of a QSL confirmation, without the expense and bother of filling out cards, self-addressed envelopes, outward and return postage costs, and the risk of pilfering, or non-delivery. Of course, they are only useful to those maintaining electronic logbooks, but that is another topic for discussion.

We encourage all DXers (and DXpeditions) who have not investigated electronic logging, QSO confirmation and OQRS to dig a bit deeper. In coming issues of *AR* we will provide more info on eQSL and LoTW but for now visit the web sites and have a sniff around.

http://www.arrl.org/logbook-of-the-world
http://www.eqsl.cc
http://www.clublog.org

In closing, we apologise for missing the column last month, but the VK9NT DXpedition raced up on us and we simply missed the editorial deadline. Many thanks to Ernie VK3FM for stepping up to the plate and covering the column. We will publish a report on VK9NT in the coming months.

Some of you have requested information on the Hexbeam antenna; if you have not received a response, please email either of us again and we'll send you the details.

Lastly, congratulations to Luke VK3HJ who snuck into 2nd place in Oceania for the 2012 CQ DX Marathon Unlimited section. Col VK4CC, who beat Luke the previous year, finished 4th, while Ernie VK3FM finished 5th. Well done guys!

Scores for Oceania

ZL2IFB	309
VK3HJ	302
YB1AR	298
VK4CC	289
VK3FM	263

The overall Unlimited section winning score was 330 by PP5EG. I suspect he doesn't do anything but sit in front of his radio!

The scoring for the CQ DX Marathon is the total of the number of DXCC entities worked, plus the number of CQ Zones worked, plus up to seven 'special' European counters which are not actually DXCC entities but count for WAE and CQ awards.

For more information, refer to *http://www.dxmarathon.com/*

Until next month, good DX es 73, Chris and Luke.

Plan ahead

Remembrance Day Contest	17-18 August
International Lighthouse Lightship Weekend	17-18 August
33rd ALARA Contest	24-25 August

Contests

James Fleming VK4TJF
e *leartez@bigpond.com*

Hello and welcome to the mid-year, that's right half of the year is gone already and only six months left.

This month in contesting the main event will be the IARU HF Championships contest. It will begin the second weekend of July, the 13th-14th, a 24 hour period from 1200 UTC Saturday to 1200 UTC Sunday. The main object is to contact as may operators as possible on all bands, and especially the IARU member society HQ stations. As usual you can do either single or multi operator. One can do phone, CW or mixed mode, high, low or QRP power if you're a single operator. As a multi operator you are restricted to single transmitter mixed mode only. Low power is classified as 150 watts, QRP 5 watts and high power would be 400 watts for most in Australia (that is, unless you have a kW approval). Contest exchange is signal report and ITU zone except for IARU member society HQ stations that give out signal report and official IARU member society abbreviation. ITU zones in Australia are 55, 58, or 59. I live in sunny Queensland so mine is 55, and for Western Australia you are 58 and South Australia would be 59. For a nice map of the ITU zones see *http://www4.plala.or.jp/nomrax/ITU/*

The points breakdown is as follows: Contacts within your own ITU zone, as well as QSOs with any IARU-member society HQ station or IARU official (counting as the special multiplier), count one point each. Contact with a station in the same ITU zone but on a different continent counts one point. Contacts within your continent (but different ITU zone) count three points. Contacts with a different continent and IARU zone count five points. Multipliers are the ITU zones and the IARU member society HQ stations worked on each band (not mode).

Please send logs to *IARUHF@iaru.org* in Cabrillo format. As usual the VKCL logging program does all the work for you and makes life easy. This is a fun contest that you should be able to increase your DXCC count while at the same time hitting up some of the IARU societies. As a plus I have always received a QSL card from the IARU member societies and they have always been very nice. If you work 70 out of the possible 75 IARU zones the Radio Society of Great Britain (RSGB) has a nice award for you, the worked ITU zones award at *http://rsgb.org/main/operating/amateur-radio-awards/rsgb-hf-awards/worked-itu-zones/* Also you can get your IARU Region 1, 2, or 3 Award. So there is lots of fun to be had during this contest and one for the DXer, QSL card chaser and award hunter. This is why this contest appeals to me, as I'm all of these three things. So get into the spirit of DX in July and have a go at the contest. Or just contact some of the HQ stations and/or give out a few zones, I'm sure that Aussie zones will be in much demand, and you might even get a pile up.

Over to you

Please follow this thread

For several decades most amateurs have relied upon the standard antenna base for their mobile antennas without thinking too much about it.

All of the antennas fit all of the bases and mostly, that's all one needs to worry about.

Until, of course, an experimenter attempts to build their own mobile antenna, where they quickly find that the standard antenna base uses a rather odd thread.

Nuts and bolts that fit our antenna bases are quite rare. It is not metric, it is not Whitworth, it looks a bit like a 5/16 inch UNF thread, but this is not right either.

It is in fact a 5/16 inch special thread called British Standard Brass (BSB). Taps and dies for this thread can be purchased, but they are expensive and hard to find.

It seems that this thread was developed a bit over a century ago exclusively for brass tubing being used with gas lighting. What makes it special is that regardless of the diameter of the nut or pipe, all threads have an identical pitch of 26 Threads Per Inch (TPI).

What I would like to know is how this odd thread found its way onto the roof of our cars and why in 2013 it remains the standard for mobile antenna fittings. It is used almost nowhere else!

Many of the readers of *AR* have a practical knowledge about all things radio, stretching back to wartime events.

There must be a reader or two out there who will recall when this standard was selected for our antennas, who made this decision and why. I wish to draw upon this knowledge and find the answer.

If you can help at all, please forward your information to *ianjackson@dcsi.net.au*, or to the AR Editor.

If I learn some additional facts about this standard, I hope to spread this information back to the AR readership in the future.

Ian Jackson VK3BUF
Drouin West, Victoria.

Harry Angel Memorial 80 m Sprint 2013 - Results

Presented by Dr Kevin Johnston VK4UH

Top placings and certificate winners (*) for HA 2013

CW	1st	VK7CW	Steve Salvia	50	(*)	
	2nd	VK2KJJ	Knud Olsen-Jensen	46	(*)	
	3rd	VK2IG	Mike Dower	40	(*)	QRP 5 watts
	4th	VK4XY	George Down	36		
	5th	VK2RQ	Matt Maguire	34		
	5th	VK2CTN	Chris Thompson	34		
Mixed	1st	VK4SN	Alan Shannon	92	(*)	
	2nd	VK2DAG	Matt Heatherington	84	(*)	
	3rd	VK4WR	Alan Meek	78	(*)	
	4th	VK7BO	Alan Taylor	59		
	5th	VK4WM	Wade Millwood	47		
Phone	1st	VK2TQ	Peter Richardson	92	(*)	
	2nd	VK4QH	Ken Bawden	82	(*)	
	3rd	VK4YZ	Charlie Strong	73	(*)	
	4th	VK3KID	Sherbrooke RC	70	(op VK3FLMR)	
	4th	VK3VCL	Wayne Bruce	70		

The 15th annual Harry Angel Memorial 80 m sprint was held this year on the evening of May 4th. The contest was established in 1999 to commemorate the life of Harry Angel VK4HA who, at the time he became a "Silent Key", was the oldest licensed amateur in Australia. The duration of the contest since its inception is 106 minutes, one for each year of Harry's Life.

The contest is open to all grades of operator, using phone or CW and its short duration, simple rule structure and "friendly" feel makes it suitable for all amateurs including those new to contesting.

The author actually won the contest and the Harry Angel Plaque in the inaugural contest back in 1999, operating VK5SR the club station of the South East Radio Group in Mt Gambier. After a long association, it has been my privilege to manage the contest on behalf of the Redcliffe and District Radio Club and the WIA for the last two years.

The contest is run in three sections, Phone, CW and mixed (CW and Phone). One point is awarded for Phone contacts and two points for CW contacts. The simple aim is work as many different stations as possible in the allotted time. Entries can of course only be made in one section.

This year, operators in the contest this year were treated to good 80 m conditions with acceptable noise levels free of major lightning storm activity. This was reflected in the highest level of activity seen for many years. On-the-ball operators found themselves working VK4HA, Harry's original Callsign, now reallocated of course, as a contestant.

In total 62 log entries were received this year. 45 in the phone section, 7 in the CW only and 10 in the mixed section. This represents an increase of over 30% from the previous year. The scores claimed ranged from 4 points to over 90 points and it is apparent from the logs that there were more than 110 80 m stations on the air and participating in this year's event. It was particularly gratifying to receive five entries from "F calls", congratulations go to VK2FAJA, VK2FGJW, VK2FXXX, VK4FAAB and VK4FDHS. One entry was received from a mobile station VK4TJF.

As in earlier years the majority of entries came from the eastern call areas VK2 12 (20%), VK3 11 (18%), VK4 30 (48%) VK5 (3%) and VK7 7 (11%). There were no entries received from VK1 or VK6 although log review shows that there were stations participating from both call areas. There were no entrants from ZL even though the contest is open to all.

Three log entries were received by post the majority however were received electronically via the Redcliffe Club's website portal. An unforeseen issue arose this year with electronic logs. For security, we had all log entries duplicated to both contest managers and to another committee member. Unfortunately the ISP of one of us identified the logs as spam and returned them all to sender marked as SPAM, even though they had actually been correctly received by me. Consequently I actually received up to 5 copies of each log and had over 250 emails to screen and reply to. Our apologies to all who suffered this problem. We did successfully catch a few logs sent to "harryangle" the well-known "protractor" and typo.

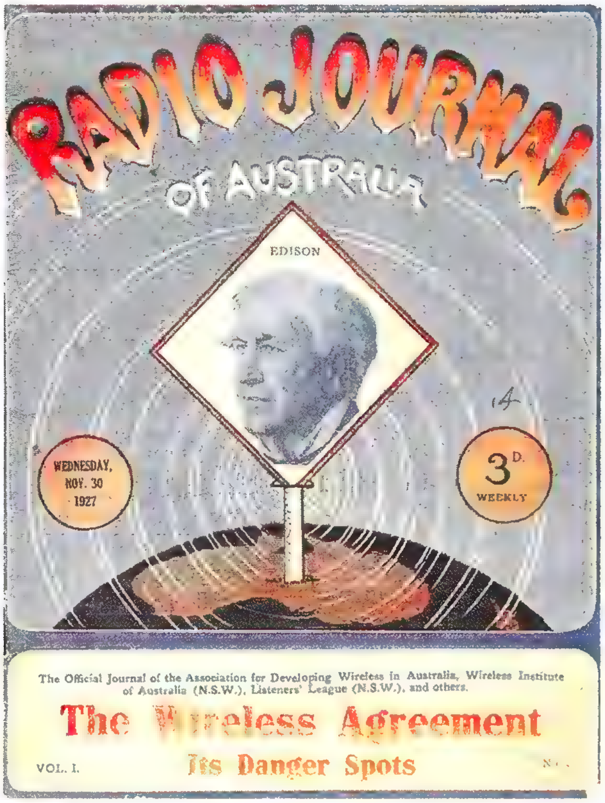
Particular credit is deserved by Mike VK2IG who achieved his certificate winning score using only 5 watts QRP in the CW section. Congratulations to all the place holders and certificate winners and thanks to all who entered and participated in this iconic Australian Contest. Its future is guaranteed by the level of participation and interest observed this year.

Plans are already in place for HA 2014. The date will be Saturday 3rd May. Make a mark in your diary for that evening.

Kevin VK4UH

Hamads

WANTED – NATIONAL


RADIO JOURNAL
OF AUSTRALIA
EDISON
WEDNESDAY, NOV. 30 1927
3D. WEEKLY
The Official Journal of the Association for Developing Wireless in Australia, Wireless Institute of Australia (N.S.W.), Listeners' League (N.S.W.), and others.
The Wireless Agreement
Its Danger Spots
VOL. I.

Copies of Radio Journal of Australia magazine.

The WIA Archive is seeking copies of the Radio Journal of Australia for copying and/or adding to the WIA Archive's shelves.

Little is known about this magazine. The WIA holds one copy only. Volume 1, Number 2 published on 30th November 1927 which contains 64 pages. The magazine claims to be the Official Organ of the Association for Developing Wireless in Australia, the Listeners' League (N.S.W.) and of importance to us, the Wireless Institute of Australia (N.S.W.).

The magazine contains articles of general radio interest, a comprehensive weekly radio guide for stations in N.S.W., S.A. Qld. and Vic. and some notes from the WIA, NSW Division. It was published in Sydney, presumably commencing on 23rd November 1927.

It is of interest to note that the magazine's Editor was George A. Taylor, the person responsible for calling the first meeting of Sydney wireless experimenters in March 1910 from which the WIA grew. Taylor was never known to be a member of the WIA, rather he returned to his interests in aviation and defence. Later he went on to form the Association for Developing Wireless in Australia, an organisation predominately representing those involved in commercial broadcasting.

There is little doubt that Australia had a colourful and heady start to those early days of radio communication and broadcasting - in all of its forms and magazines such as this provide a glimpse of that exciting pioneering time past!

Please contact Peter VK3RV via email vk3rv@wia.org.au or c/o the National Office in Bayswater if you can help us locate copies of this magazine.

ACKNOWLEDGEMENT

For those who have responded to previous requests for copies of early magazines, thank you. We are gradually building up our collection of important Australian magazines which will be available to future researchers.

I would also like to thank in particular, the following individuals and clubs who have forwarded books, audio recordings and magazines to the archive: Graeme Zimmer, Gordon Bracewell, Ron Fisher, John Paterson, Aub. Topp, Ric. Cole and Keith Strickland (on behalf of the Geelong Radio and Electronics Society) for their recent, important donations.

73, Peter VK3RV

FOR SALE – VIC

Prolific USB [Serial] programming cable for Yaesu FT-8800/8900. This is new in original packing, and includes driver and application software for Mac or Windows. $60 plus extra $5 for posting to anywhere in VK.

Contact Tim VK3YBP QTHR, email *robinsont@pacific.net.au* or mobile 0412 495 079.

BHI NES 10-2 noise eliminating speaker, as new, with notes. S/N 10302426. $100.

Yaesu desk microphone, MD-100, as new, $100.

Kenwood TS-440S with inbuilt automatic antenna tuner S/N 9100349, good condition and tested OK to 100 watts, $400.

Kenwood PS-430, S/N 3120171 power supply to suit the TS-440S, $90.

Diamond SX 20C cross needle SWR/power meter, 3.5 MHz to 150 MHz, 30 to 300 watts, $95-00.

Katsumi EK-26 Electronic keyer, works OK, $40.

Yaesu FT-101B, S/N 202765, seems to operate OK but not fully tested, $250.

Contact Noel Ferguson VK3FI, Box 153, Nichols Point, Vic. 3501, or phone 03 5023 6722 or email *vk3fi@wia.org.au*

FOR SALE – SA

The VK5JST Aerial Analyser (*AR* May 2006). Over 10,000 built, and still available from the Adelaide Hills Amateur Radio Society. For full details see *www.ahars.com.au*

WANTED – WA

Wanted is a 23 cm FM transceiver. Contact Will VK6UU at *will2@iinet.net.au* or on 08 9293 1105.

Contributions to Amateur Radio

AR is a forum for WIA members' amateur radio experiments, experiences, opinions and news.

Your contribution and feedback is welcomed.

Guidelines for contributors can be found in the AR section of the WIA website, at http://www.wia.org.au/members/armag/contributing/

Email the Editor:
editor@wia.org.au

About Hamads

- Submit by **email (MUCH PREFERRED)** or if written and mailed please print carefully and clearly, use upper AND lower case.
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Icom	OBC
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TTS	63
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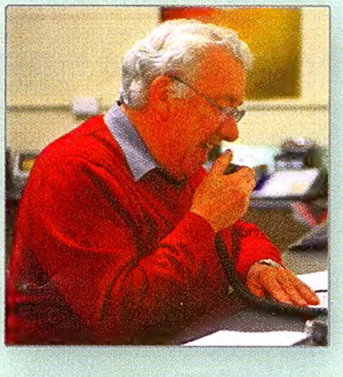
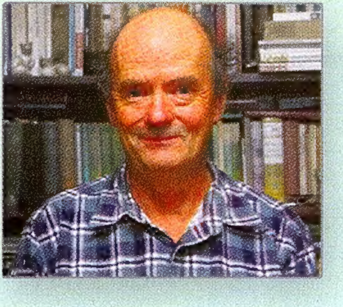
VK Amateurs Recognised at Dayton Hamvention



Two VK amateurs were recognised on 19 May 2013 at the world's largest Hamvention in Dayton, Ohio.

The late Michael Owen VK3KI was one of 8 inductees into CQ Magazine's Hall of Fame. Michael was a long-time WIA President and IARU Region 3 Chairman. As the former he presided over changes including the introduction of Foundation Licensing and WIA restructuring. Michael played key roles as an IARU representative, including the revision of the ITU Regulations governing the Amateur Radio and Amateur Radio Satellite services at WRC03.



Concurrently with the Hamvention QRP operators were holding their annual 'Four Days in May'. A highlight was the induction of Drew Diamond VK3XU (pictured) into the QRP Hall of Fame. Drew is just the second VK amateur ever to be admitted and is well-known for his long-term encouragement of homebrew construction through books and articles, mostly in the WIA's *Amateur Radio* magazine.

Sources: Southgate & QRP ARCI.

WIA Annual Conference Fremantle 24 - 25 May 2013

Bob VK6POP and Onno VK6FLAB receive awards from Phil Wait VK2ASD for their role in organising the 2013 Conference.

Phil Wait presents a President's Commendation to Alan Shannon VK4SN.

Onno VK6FLAB, Trent VK4TS, Miles VK6MAB and Bob VK6POP record the Sunday WIA News broadcast.

Professor Lyn Beazley Chief Scientist of WA gave a wonderful talk on the evolution of vision (sight) in animals.

Dianne Ashton VK3FDIZ receives a President's Commendation from Phil Wait VK2ASD.

Main photo: Overall view of the official dinner.

Summits on the Air (SOTA)

Ron Cook VK3AFW presenting an overview f SOTA.

Phil Harmon VK6APH presented an inspirational talk on Software Defined Radio.

Mark Rawlings VK6MOA described his journey into amateur radio through his involvement in antenna manufacturing.

Photos by Eddie Saunders VK6YA and Bill Rose VK6WJ.

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